

# III-V MBE System

## Model 35-3

*Engines for Thin Film Innovation*



### SVT Associates' Model 35-3

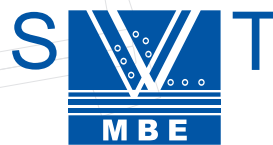
- SVT Associates' Model MBE 35-3 is a research MBE System for growth of thin films on 3" (4" capable) substrates. It includes vacuum chambers, pumps, gauges, effusion cell sources, control electronics and power supplies, computer system and software.
- The load-lock introduction Chamber allows for rapid sample loading while maintaining the high purity environment.
- The UHV Growth Chamber includes a series of source ports to accommodate a wide selection of deposition sources and process monitoring tools.
- The substrate growth manipulator provides temperatures up to 1000 C and continuous rotation during MBE growth.
- The RoboMBE automation software/system provides for recipe control of the MBE process.
- Demo and deposition services available.

### SVT Associates, Inc.

- Leading manufacturer of thin film deposition equipment since 1993.
- In-house laboratory for materials research and process development.
- Established a diverse range of deposition components, systems, integrated sensors, and process control.
- Developed strong combination of equipment manufacturing and process know-how.
- Seven Applications Laboratory deposition systems producing world class materials.
- Diverse system product line spanning the thin film deposition market.
- Leading supplier with over 190 systems in the field.

### Applications

- |          |          |
|----------|----------|
| • GaAs   | • GaSb   |
| • AlGaAs | • AlGaSb |
| • AlAs   | • AlSb   |
| • InAlAs | • InAlSb |



# Specifications Model 35-3

## BASE SYSTEM

### Chamber and Vacuum Pumps

12" Access Flange  
1,500 l/s Cryo Pump  
(300 l/s Turbo Pump Available)  
200 l/s Ion Pump  
Integrated Cryo-Shroud  
Base Pressure:  $8 \times 10^{-11}$  torr

### Deposition Sources

Up to Ten Effusion Cells with  
Pneumatic Shutters

### Valve Cracking Sources for As/Sb

Two temperature zones  
Power Supplies and Controllers for Valved Cracker – As/Sb  
Model VC-MRS: Servo Motor Package for Valved Cracker

### Deposition Stage

3" (4" Capable) Sample Size  
Heating to 1,000 C  
Continuous Rotation  
z-Axis Translation  
Master Shutter

### In-Situ Process Monitoring Tools Available

RHEED, 10 – 15 keV Electron Source  
RHEED, Screen, Viewport, and Shutter, Pb glass  
Quartz Crystal Deposition Rate Monitor  
Linear Flux Monitor  
AccuFlux Process Monitor  
AccuTemp Process Monitor

### 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 Bakeout

