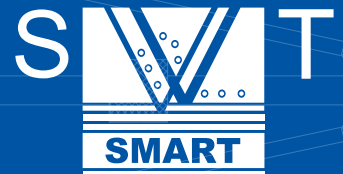


SMART NanoFab MBE

Versatile Compact Research System



SMART NanoFab – MBE BASE SYSTEM

SMART PLD – Vacuum Hardware

- SMART Chamber – Thermal and Laser
- 14" Quick Entry Door
- Chamber Mounting Hardware

SMART Console/Electronics Racks

- Dual Electronics Rack as console
- Table Top (Stainless)

SMART Pumping Hardware

- UHV Cryopump Package
 - Cryo-Torr 8 Cryopump
 - 8200 Compressor
 - Installation Kit
 - 8" to 10" CF Adapter
 - Roughing Valve
 - Vent Valve
 - Blanks, reducers, viewports, assy kits

SMART Electronics

- NI Controller
- RoboMBE Software
- Computer

SMART MBE Installation Kit

Stage Control Package

- Stepper Motor Substrate Manipulator Rotation
- Power Supply Cabling
- Sample Heater Power Supply
- Sample Heater Eurotherm Controller

Sample Blocks with Blank Inserts

GP UHV Ion Gauge and Controller



SMART DEPOSITION SOURCES

Effusion Cell Package	
Water Cooled Source Nipple	
Valved Cracker Source Package	
4.5" RF Plasma Source Package	
	
Pneumatic Manifold	

SMART DEPOSITION STAGES


2" Substrate Manipulator, Z-Motion, Rotation and 850 °C Heating	
Optional: 1000 °C Heating	
O ₂ Resistant Filament Option	
Stepper Motor Control Upgrade Package	
Additional Sample Blocks with Blank Inserts	
Insert with 1 cm x 1 cm thru hole with shelf	
Spare Heating Elements	

METROLOGY TOOLS

Quartz Crystal Flux Monitor	
10 – 30 kV RHEED Packages	
RHEED Image Analysis	
Differential Pumping Option with Gauge	
AccuFlux Package	

VACUUM HARDWARE

AVAILABLE VACUUM PUMPS

1500l/s Cryo Pump	
150l/s Ion Pump	
240l/s Ion Pump	
300l/s Turbo Pump	
700l/s Turbo Pump	
Dry Scroll Backing Pumps	
Note: Multiple Pumps Require Pumping Tee	
LN ₂ CryoPanel Package	
System Bakeout Package	


GAUGE OPTIONS

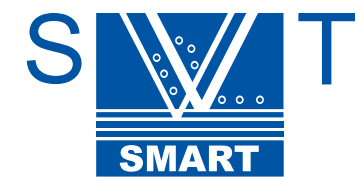
Cold Cathode Gauge Package	
Baratron Package	

GAS CONTROL

Mass Flow Control Package	
Leak Valve Package	

ADDITIONAL OPTIONS

Loadlock/Transfer Module	
Load Lock Chamber with Cross Transfer	
Load Lock Chamber w/o Cross Transfer	
Docking Stage for Substrates	
Magnetic Transfer Rod	



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Engines for Thin Film Innovation