VINCI TECHNOLOGIES

PVD Series
Thin Film Deposition Systems

PVD-4

EVOLUTIONARY

COST EFFECTIVE

MODULAR

Magnetron Sputtering

Thermal Evaporation

Advanced Hybrid Systems

Developing practical solutions for cutting edge technology

PVD-4

PVD-4 SYSTEM

The PVD-4 is a physical vapor deposition system, dedicated to the Evaporation or Sputtering deposition process of materials. Its evolutionary design is particularly adapted to laboratory requirements in terms of every day applications, its simplicity to use and its competitive price.

CORE SYSTEM FEATURES

- Stainless steel – 320 mm diameter cylindrical (Bell Jar upon request)
- Fast Entry Frontal Door with viewport
- Sample holder for substrates of up to 4" in diameter
- Water cooling to avoid excess heating

DEPOSITION TECHNIQUES

THERMAL EVAPORATION

- Evaporation by Joule effect
- Up to 4 sources (boats, rods, baskets, filament, etc.)
- Cross contamination shields included
- Organic 2cc/Inorganic

MAGNETRON SPUTTERING

- 1" or 2" magnetron cathodes
- Integrated Pneumatic shutters
- RF, DC or DC Pulsed source power supplies
- Up to 3 cathodes in Sputter Down or Sputter Up configuration
- Mass Flow Controller for Gas Line
- Pressure regulation by throttle valve

HYBRID CONFIGURATION

- Combined Sputtering & Evaporation processes
  - Up to 2 Evaporation sources with 1 cathode
  - Up to 2 cathodes with 1 Evaporation source
- Process switching controlled by Software

APPLICATIONS

- BIOMEDICAL
- AUTOMOTIVE
- SEMICONDUCTOR
- BATTERIES
- OPTOELECTRONICS
- CERAMICS & GLASS
- METALIC COATINGS
- PLASTICS

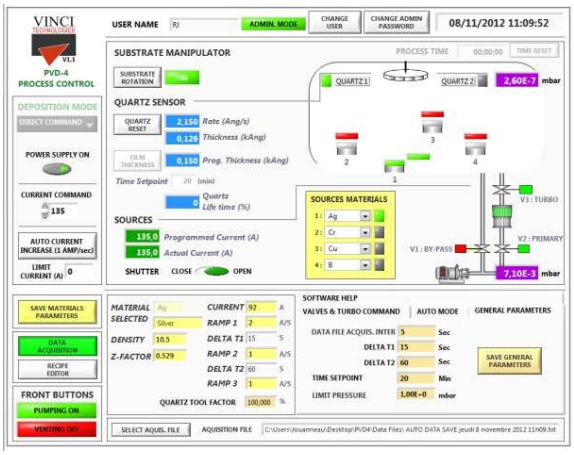
PVD-4

EASY TO USE SOFTWARE

The R&D orientated system can be supplied with an easy to use automation software for full control of any deposition process.

Process Acquisition software with:

- Rate deposition
- Thickness control
- Pressure Display
- Temperature Control
- Valve/Shutter management



Fully & Semi Automatic modes

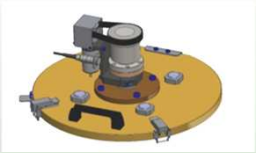
User mode Access Levels

Recipe modes for Thickness Rate & Deposition Time

- Pre-programmed recipe library

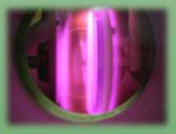
Hardware :
Integrated PC with windows XP or 7 (as standard)

OPTIONS

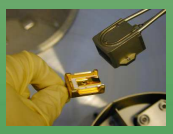


➢ **Sample Motorization**

➢ **Heating Coil**
Up to 800°C



➢ **Sample Bias**
Etching
Layer modification



➢ **Quartz Microbalance**
Thickness monitoring

SPECIFICATIONS

Thickness Homogeneity (@ working distance of approx. 100 mm)	+/-2%
Thickness Reading Precision	0.1 A
Deposition Rate Reading Precision	0.01 A
Vacuum Base Pressure	10^{-7} mbar
Pumping-down Time (10^{-6} mbar)	< 20 mins.
Turbo pump	300 L/s on N_2

PVD-4

COMPATIBILITY MATRIX

Configuration type	System		
	PVD-4 E	PVD-4 S	PVD-4 H
SUBSTRATE HEATING (up to 600°C)	X	X	X
SUBSTRATE COOLING (down to -150°C)	X	X	X
SUBSTRATE ROTATION	X	X	X
CATHODES (Up to 3)	-	X	Max depends Nbr. Of Thermal
SPUTTER DOWN	-	X	-
SPUTTER UP	-	X	X
THERMAL (Up to 2)	X	-	Max depends Nbr. Of cathodes
LOAD LOCK COMPATIBILITY	-	-	X
SAMPLE BIAS	-	X	X
BELL JAR	X	X	X
QUARTZ CONTROLLER	X	X	X
THROTTLE VALVE	-	X	X

ADVANTAGES

- FAST PUMPING SPEED
- PRESSURE MANAGEMENT
- THICKNESS MONITORING
- EVOLUTIONARY
- DESIGN FLEXIBILITY
- COMPACT

COMPANY HISTORY

Vinci Technologies manufacture and supply a broad range of laboratory and field instrumentation for the oil & gas industry. The vacuum division, formerly MECA2000 draws from a rich expertise to manufacture **PVD-Sputtering & Thermal Evaporation**, **PECVD** and **PLD** systems for **vacuum coating thin inorganic and organic films**.

For additional information , feel free to consult our catalogue online or contact us for a range of solutions customized to your requirements.