PVD Series
Thin Film Deposition Systems

PVD-4

Magnetron Sputtering
Thermal Evaporation
Advanced Hybrid Systems

VERSATILE
COST EFFECTIVE
MODULAR
COMPACT

Developing practical solutions for cutting edge technology
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 everyday applications, as its simplicity to use and its competitive price.

CORE SYSTEM FEATURES

- Stainless steel – 320 mm diameter cylindrical
- Fast Entry Frontal Door with viewport
- Sample holder for substrates 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

MAGNETRON SPUTTERING

- 1” or 2” magnetron cathodes
- Integrated pneumatic shutters
- RF, DC or DC pulsed source power supplies
- Up to 3 cathodes in 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 & 2 sputtering cathodes

ORGANIC CONFIGURATION

- Combined Organic & Inorganic Evaporation processes
  - Up to 2 organic & 2 thermal sources
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 supervision 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

Hardware:
Integrated PC with windows 7 connected to a PLC

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness Homogeneity (@ working distance of approx. 100 mm)</td>
<td>+/-2%</td>
</tr>
<tr>
<td>Thickness Reading Precision</td>
<td>0.1 A</td>
</tr>
<tr>
<td>Deposition Rate Reading Precision</td>
<td>0.01 A</td>
</tr>
<tr>
<td>Vacuum Base Pressure</td>
<td>10^-7 mbar</td>
</tr>
<tr>
<td>Pumping-down Time (10^-6 mbar)</td>
<td>&lt; 20 mins.</td>
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<tr>
<td>Turbo pump</td>
<td>300 L/s on N₂</td>
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COMPATIBILITY MATRIX

<table>
<thead>
<tr>
<th>Configuration type</th>
<th>System</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>PVD-4 E</td>
<td>PVD-4 S</td>
<td>PVD-4 H*</td>
</tr>
<tr>
<td>SUBSTRATE HEATING</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>(up to 600°C or 900°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRATE COOLING</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>(down to -150°C)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBSTRATE ROTATION</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>CATHODES (Up to 3)</td>
<td>-</td>
<td>X</td>
<td>Max : 2 thermal sources + 2 cathodes</td>
</tr>
<tr>
<td>THERMAL (Up to 4)</td>
<td>X</td>
<td>-</td>
<td>Max : 2 thermal sources + 2 cathodes</td>
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<tr>
<td>LOAD LOCK COMPATIBILITY</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>SAMPLE BIAS</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>BELL JAR</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>QUARTZ CONTROLLER</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>THROTTLE VALVE</td>
<td>-</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

* Multi-deposition system: Sputtering, Organic evaporation, Thermal evaporation

ADVANTAGES

- FAST PUMPING SPEED
- PRESSURE MANAGEMENT
- THICKNESS MONITORING
- SCALABILITY
- VERSATILITY
- 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.