



Advancing Plasma-Based Technologies

# **PLASMIONIQUE**

À l'Avant-Garde des Technologies Plasma

## **GLAZE Series Pulsed Laser Deposition Systems**



GLAZE series Pulsed Laser Deposition Systems are designed for Advanced Thin Film Coating applications. Glaze systems could combine a multitarget holder with an innovative sample manipulator, allowing deposition on plane or cylindrical samples. Substrate Heating to over 800 °C and the possibility of Reactive Deposition, as well as integration of magnetron cathodes for hybrid operation are among the standard features. A sophisticated, but user friendly, Computer Control system handles target and sample manipulation and allows full process automation, including the laser and the safety interlocks. A data acquisition system for real time display of process parameter, data logging and recipe saving / recall is included. Option for integration of in-situ diagnostics is also available.

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# ***GLAZE Deposition System Characteristics***

<p>GLAZE Ablation Target Holder</p>	<ul style="list-style-type: none"> <li>• Target sizes circular 1", 2", 3"</li> <li>• Single or multiple rotary targets</li> <li>• Programmable target indexing and scanning across laser beam (for fixed laser spot)</li> <li>• Cross-contamination shield</li> </ul>
<p>Substrate/ Sample Mount</p>	<ul style="list-style-type: none"> <li>• User defined samples size/shape</li> <li>• Heating to over 850 °C with PID temperature control or cooling</li> <li>• Sample Motorized rotation and axial translation motorized or manual</li> <li>• Biasing (RF or DC) available</li> <li>• Load-lock sample transfer station (optional)</li> </ul>
<p>Process Environment</p>	<ul style="list-style-type: none"> <li>• Stainless steel chamber, cylindrical or spherical chambers</li> <li>• Access door or loadlock substrate transfer</li> <li>• Vacuum to below 10<sup>-8</sup> Torr range with turbomolecular pump, backed with rotary vane or dry mechanical pump</li> <li>• Operation with oxygen or corrosive gases (optional)</li> <li>• Vacuum gauges: wide-range gauge and capacitance manometer for process pressure control</li> <li>• Throttling gate valve with automatic control</li> </ul>
<p>Gas Management</p>	<ul style="list-style-type: none"> <li>• User defined number of Mass Flow Controllers with shut-off valves</li> <li>• Purge/vent line with safety pressure relief valve</li> </ul>
<p>Process Control System</p>	<ul style="list-style-type: none"> <li>• LabView®-based monitoring and control software</li> <li>• Intuitive graphical user interface</li> <li>• Plotting and data-logging</li> <li>• Program mode for programming multi-step processes</li> <li>• Alarms and safety interlocks, emergency shut-off</li> <li>• Options for Optical Emission and Mass spectroscopy Diagnostic interfaced to process control</li> </ul>
<p>Plasma Source Option</p>	<ul style="list-style-type: none"> <li>• Optional Remote ICP source for enhance reactive deposition</li> <li>• Independent power supply and integrated control included</li> </ul>
<p>Utility Requirements</p>	<ul style="list-style-type: none"> <li>• Electrical: Typically, 208/380V, 60/50Hz, 3-phase, 5-wire</li> <li>• Cooling water: typically 1-4 gpm, 17-30 °C, system dependent</li> <li>• Instrument air: 40-80 psig (3-5 bar)</li> <li>• Purge/vent gas, regulated</li> <li>• Process gases, regulated</li> </ul>