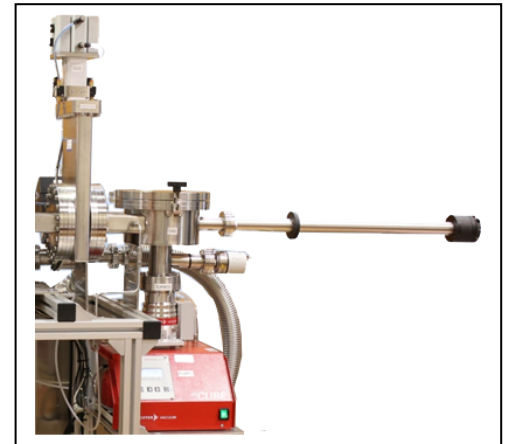




## Substrate Mount Assemblies, Manipulation and Loadlock Systems

Substrate mount design influences film uniformity and characteristics. Your application will determine which features are important. Our substrate mount assemblies may incorporate the following features:

Feature	Issues and Options
<b>Sample size</b>	<ul style="list-style-type: none"> <li>Standard sizes: circular diameter 2" - 8"</li> <li>Non-standard sizes: Structures are designed to fix samples of any size or shape.</li> </ul>
<b>Heating</b>	<ul style="list-style-type: none"> <li>Resistive heating element (tungsten, SiC or other): up to above 850 °C</li> <li>Quartz halogen lamps</li> <li>Temperature measurement with PID control integrated into system software</li> </ul>
<b>Cooling</b>	<ul style="list-style-type: none"> <li>May be required to prevent overheating of temperature-sensitive materials</li> <li>Cooling lines integrated into substrate mount</li> <li>Chilled fluid, closed or open cycle</li> </ul>
<b>Biasing</b>	<ul style="list-style-type: none"> <li>RF, DC and Pulsed-DC</li> <li>High voltage DC and Pulsed-DC for ion implantation – up to 10 kV</li> </ul>
<b>Axial motion (translation)</b>	<ul style="list-style-type: none"> <li>Adjust source-substrate distance to optimise deposition rate and film quality</li> <li>Bellows-sealed translating stage (UHV compatible)</li> <li>Manual or Motorised with interface to process control software</li> <li>Sliding o-ring seal (adjustable only when chamber is vented)</li> </ul>
<b>Rotation</b>	<ul style="list-style-type: none"> <li>Motorised, adjustable speed up to 20 rpm and interfaced to control software</li> </ul>
<b>Shutters and Masking</b>	<ul style="list-style-type: none"> <li>Shutters for shielding the sample (manual or automated), Integration into control software</li> <li>Shadow mask positioning systems</li> </ul>



Note that some combinations are not available. Please [inquire](#) with your specific requirements.

## **Load-lock Systems**

Plasmionique can provide load-lock systems incorporating:

- Stainless steel vacuum chamber with large access door
- Turbomolecular pumping package (dry) with manual or pneumatic gate valve for isolation
- Vacuum gauge
- Magnetically-coupled transfer arm with sample transfer mechanism