System description

One process chamber – one sputter source – one target group: The laboratory-scale magnetron sputter system FHR.Micro.200-PVD is a vacuum coating system for application in teaching, research and development. The easy-to-handle sputter system is made for various substrates with diameters of up to 200 mm. Like any other product of the FHR-Micro family, it offers an attractive cost-performance ratio.

Process

- DC model: sputter deposition of electrically conductive layers
- HF model: sputter deposition of electrically conductive or electrically non-conductive layers

Benefits for the customer

- Compact design
- Easy to operate
- Easy to service, very good accessibility of all components
- Many fields of application in research and teaching
- Attractive investment and running costs
### Key figures

**FHR.Micro.200-PVD**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (LxWxH), weight</td>
<td>750 mm x 600 mm x 1400 mm, 200 kg</td>
</tr>
<tr>
<td>Number of process stations</td>
<td>1</td>
</tr>
<tr>
<td>Maximum substrate size</td>
<td>200 mm diameter</td>
</tr>
<tr>
<td>Substrate thickness</td>
<td>max. 30 mm (&gt; 30 mm possible with spacer rings)</td>
</tr>
<tr>
<td>Layer thickness inhomogeneity</td>
<td>± 3 ... 5% typical in a range of up to 150 mm diameter</td>
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<tr>
<td>Sputter source</td>
<td>FHR.SC200-DC or FHR.SC200-HF (target diameter: 200 mm)</td>
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<tr>
<td>Deposition rate (1.5 kW)</td>
<td>- Al: up to 250 nm/min, Cr: up to 200 nm/min, Cu: up to 350 nm/min</td>
</tr>
<tr>
<td>Pump-down time (10⁻⁵ mbar)</td>
<td>&lt; 5 min</td>
</tr>
<tr>
<td>Final vacuum (after 1 h)</td>
<td>5 x 10⁻⁶ mbar</td>
</tr>
<tr>
<td>Power, water, compressed air, gases</td>
<td>specifications and connections according to applicable technical standards</td>
</tr>
<tr>
<td>Process gases</td>
<td>argon (Ar), nitrogen (N₂)</td>
</tr>
</tbody>
</table>

### Special features
- Manual process chamber opening and closing
- Manual substrate positioning
- PLC-controlled process
- Safety process interlock
- Water stop
- CE label
- Made in Germany

### Options
- DC or HF model

### Typical applications
- **DC model**: deposition of metallic layers (Al, stainless steel, Cr, Cu, Au, Ag ...)
- **HF model**: deposition of insulating layers (Al₂O₃, SiO₂, ZrₓOᵧ, Si₃N₄ ...)

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