Applications

RTA (Rapid Thermal Annealing)
RTO (Rapid Thermal Oxidation)
Ohmic contact annealing
Implant annealing
RTCVD of graphene and hBN
Silicon carbonization
RTCVD of poly silicon, SiO₂, SiNx, ...

Specifications

The AS-Master system can process wafers up to 200 mm diameter at temperature up to 1450°C for the high temperature version.
The cold wall chamber technology provides significant advantages:
• Low memory effect
• Higher cooling rates
• Ultra clean environment

The cross lamp furnace with multi zone control insures enhanced temperature uniformity. Different furnace configurations are available depending on the application.
Pyrometer and thermocouple temperature measurements are standard features. The fast digital PID temperature controller provides accurate thermal control across the temperature range.
The AS-Master can receive a temperature controlled double quartz window and sample rotation to perform RTCVD processes.
Loadlock and cassette to cassette loading are optional features.
Basic features

Substrate size | Up to 200 mm diameter – capability for 3x100 mm wafers
Small substrates using susceptors

Process chamber | Stainless steel cold wall chamber technology

Temperature range | Up to 1150°C, 1250°C or 1450°C depending upon version

Temperature control | Thermocouple and pyrometer temperature control
Fast digital PID / RTP temperature controller

Vacuum and gas | Up to 8 process gas lines with digital mass flow controllers
One purge gas line
Vacuum valve and vacuum gauge

Control | Full PC control, up to 100 steps per recipe
Human interface designed in respect of SEMI E95-0200
Full data logging and process historicals

Optional features

Graphite and silicon carbide coated susceptors
Rough vacuum pump and turbo pump, automatic pressure control with throttle valve
Fast cooling system, Selenization kits

Customer support

Outstanding customer support for hardware, software and process
Efficient remote support using software diagnostic capabilities
High expertise in RTP processes of our process engineers
Capability to support customer for process optimization

Physical specifications

Voltage : 3x400V+N+Gr
Power : 75 kW, 90 kW or 105 kW
Water : 2 to 4 bars, pressure drop 1 bar, 30 to 50 l/mn
Compressed air : 6 bars (valve actuation)
Process gas fittings : double ferrule ¼” or VCR ¼” (option)

<table>
<thead>
<tr>
<th>Dimensions and weight</th>
<th>Width</th>
<th>Depth</th>
<th>Height</th>
<th>Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,104 mm</td>
<td>1,550 mm</td>
<td>2,500 mm</td>
<td>850 kg</td>
</tr>
<tr>
<td></td>
<td>43.5”</td>
<td>61.0”</td>
<td>98.5”</td>
<td>1,874 lbs</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice. Non-contractual document – AS13B20

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