

**RTP**

# AS-Master RTP - SYSTEM

**200 mm RTP system from R&D to Production**

**From room temperature up to 1450°C**

**Standard vacuum capability**

**Manual or cassette to cassette loading**



## 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, SiO<sub>2</sub>, 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<br>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<br>Fast digital PID / RTP temperature controller                                                  |
| Vacuum and gas      | Up to 8 process gas lines with digital mass flow controllers<br>One purge gas line<br>Vacuum valve and vacuum gauge                              |
| Control             | Full PC control, up to 100 steps per recipe<br>Human interface designed in respect of SEMI E95-0200<br>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

|            |                        |                                                 |
|------------|------------------------|-------------------------------------------------|
| Facilities | 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)              |

|                       |        |          |           |
|-----------------------|--------|----------|-----------|
| Dimensions and weight | Width  | 1,104 mm | 43.5"     |
|                       | Depth  | 1,550 mm | 61.0"     |
|                       | Height | 2,500 mm | 98.5"     |
|                       | Mass   | 850 kg   | 1,874 lbs |



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