ANNEALSYS

AS-MASTER

200mm Versatile RTP/RTCVD tool
From RT to 1500°C, down to 10^{-7} Torr
Manual or cassette to cassette loading

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APPLICATIONS

- **Rapid Processing (RTA, RTO)**
- **SiC contact annealing, Carbonization**
- **Compound semiconductor annealing**
- **Implant quality control**
- **RTCVD (poly silicon, SiO2, SiNx,…)**

SPECIFICATIONS

The AS-Master rapid thermal processor is a highly versatile tool allowing a wide range of processes from annealing to rapid thermal chemical vapor deposition. The high temperature version can run annealing processes up to 1500 C. Optional square chamber is available for square samples processing.

The cold wall chamber technology provides high process reproducibility under ultra clean and contamination-free environment. Loadlock and cluster tool module versions are available for improved process environment cleanness.

The extended temperature range, the vacuum performance (atmosphere to 10^{-7} Torr) and gas mixing capability make AS-Master suitable for a large range of RTP and RTCVD processes.

Pyrometer and thermocouple temperature control associated with fast digital PID temperature controller provide accurate temperature control.

Manual loading and cassette to cassette versions make system suitable for process development and easy transfer to production.

PERFORMANCE CHARACTERISTICS

- **Temperature range: RT to 1500 C**
- **Ramp rate up to 200 C/s**
- **Gas mixing capability**
- **Vacuum range: Atmosphere to 10^{-7} Torr**

RTP/RTCVD

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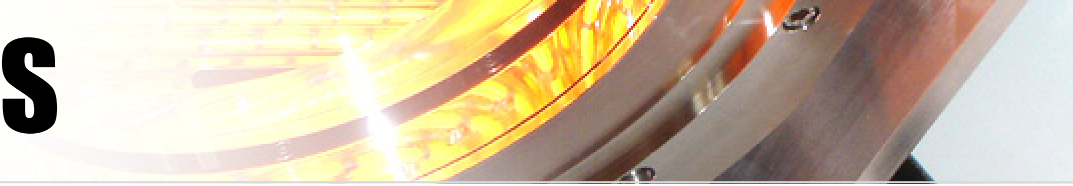

AS-MASTER

AS-Master version	S20	S20 HT	2000
Maximum temperature	**1150°C**	**1500°C**	**1250°C**
Number of independent heating zones	**6**	**6**	**10**
Maximum power	**75 kW**	**105 kW**	**90 kW**

General features

Maximum substrate size	200 mm diameter 200mmx200mm for square chamber version
Process chamber	Water-cooled stainless steel with quartz window Low volume of the process chamber Optional square chamber
Heating	Infrared multi zone lamp furnace Fan lamp air-cooling with heat exchanger High temperature version up to 1500 C
Temperature control	Thermocouple temperature control Optical pyrometer control (4 positions) Fast digital PID temperature controller
Vacuum and gas	Purge gas line with needle valve Up to 6 process gas lines with digital mass flow controllers Vacuum valve and vacuum gauge Optional vacuum rotary of dry pump Optional turbo pump Optional pressure control with throttle valve
Control	Full PC control, up to 100 steps per recipe Ethernet connection to PC for fast control and data logging Wafer traceability and process historicals
Facilities	Voltage: 3x400V+N+Gr or 3x220V+Gr with transformer Power: Depends on version, see top of page Water: 2 to 6 bars, pressure drop 1 bar, 25 to 50 l/mn Compressed air: 6 bars (valve actuation) Process gas fittings: VCR ¼ or Swagelok ¼
Dimensions and weight	Width: 1104 mm Depth: 1550 mm Height: 2500 mm Weight: 850 kg

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