



ANNEALSYS

RTP/RTA SINGLE WAFER PROCESSING

 **ECM**
GREENTECH



Annealsys rapid thermal processing (RTP) and chemical vapor deposition (CVD/ALD) systems are ideal for research & development laboratories and small-scale production applications.

We provide machines for processing substrates in the fields of silicon, compound semiconductors, nano-technologies, MEMS, solar cells, glass, etc. Our process engineers have experience in processing a wide range of substrates: silicon, gallium arsenide, silicon carbide, sapphire, metal, glass and polymers. The unique features of our machines allows development of new materials.



ECM Greentech, subsidiary of the ECM Group, specializes in designing, manufacturing and commissioning equipment & turn-key lines for the renewable energy and semiconductor industry.

Innovation is fundamental for not only our success, but our customers; therefore, R&D is the highest priority and at the heart of our dedication. Every year ECM Greentech invests a substantial amount in R&D that allows us to stay a step ahead of competition. When choosing ECM Greentech, you will benefit from the best technology available.

ECM has a privileged partnership with the world renowned research institute CEA for research & development and the validation of new processes & technologies. We strive to develop the most leading-edge technologies for renewable energies and storage, semiconductor, and advanced crystals applications - from laboratory to industrial scale.

PRODUCT LINES

RTP / RTA (ENTRY LEVEL)

Microelectronics
Power Devices
Optoelectronics
Sensors
MEMS
Solar cells
R&D

The cold wall chamber technology and the extended temperature range of Rapid Thermal Processing associated with optimized susceptors allows processing of a wide range of substrates:

Silicon wafers
Compound semiconductor wafers
GaN, SiC, InP, GaAs, Ge & more
Poly silicon wafers

Glass substrates
Metals
Polymers



JETLIGHT

Entry-level Batch-Type Rapid Thermal Annealing Furnace

- From room temperature up to 1000°C
- Thermocouple temperature control
- Fast ramp rates up to 200°C/s
- Substrate size up to 50mm diameter
- Up to 2 process gas lines with MFC



JETFIRST 100-200

Bench-top Rapid Thermal Process Furnace up to 200mm

- Bench-top system, reduced footprint
- From room temperature up to 1300°C
- Fast ramp rates up to 200°C/s
- Cold-wall design for process reproducibility
- Substrate size up to 200mm diameter
- Up to 4 process gas lines with MFC



JETFIRST 300

Rapid Thermal Process Furnace up to 300mm

- Floor standing system, reduced footprint
- From room temperature up to 1200°C
- Fast ramp rates up to 150°C/s
- Substrate size up to 300mm diameter
- One purge gas line
- Up to 4 process gas lines with MFC
- Digital PID temperature controller

RTP / RTCVD

Rapid Thermal Annealing
Rapid Thermal Oxidation
Ohmic Contact Annealing
Implant Annealing
RTCVD of Graphene & hBN
Selenization
Silicon Carbonization
Crystallization
Densification



AS-Micro

3-inch RTP System for Laboratories

- From room temperature up to 1250°C
- Fast ramp rates up to 250°C/s
- Standard vacuum/gas mixing capability
- Twin chamber version to avoid cross contamination



AS-One

RTP Systems 100mm (4") / 150mm (6")

- Floor standing system, reduced footprint
- From room temperature up to 1450°C
- Cold wall chamber technology
- Gas mixing and high vacuum capabilities
- Pulse Annealing
- Optional: turbo pump, fast cooling system



AS-Premium

Multi-Configuration RTP system for substrates up to 156x156mm²

- Top or both side heating
- Multi-zone lamp furnace
- From room temperature up to 1250°C
- Manual or robot loading
- Cold wall chamber technology
- High vacuum capability
- Up to 8 process gas lines with MFC
- Optional: turbo pump, fast cooling system



AS-Master

200mm RTP System from R&D to Production

- Multi-zone lamp furnace
- From room temperature up to 1450°C
- Manual or robot loading
- Cold wall chamber technology
- High vacuum capability
- Up to 8 process gas lines with MFC
- Optional: turbo pump, fast cooling system



Zenith-Series

High Temperature RTP system

- Substrates up to 200mm diameter
- Process temperature from 450-2000°C
- Low inertia tungsten heating elements
- High vacuum system with turbo pump
- Graphene and silicon carbide applications

DLI-CVD / DLI-ALD

APPLICATIONS

Oxides, nitrides, metals and alloys, 2D & 3D materials, etc

Multi-process capabilities inside the same process chamber: CVD, ALD, MOCVD, pulse pressure CVD, RTP & RTCVD

Our DLI-CVD / DLI-ALD machines are equipped with direct liquid injection vaporizers for the utilization of the widest range of chemicals including low vapor pressure and thermally unstable precursors.

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MC-050

2-inch DLI-CVD / DLI-ALD System
Multi-process: CVD, ALD, RTP,...

- Up to 4 direct liquid injection vaporizers
- From room temperature up to 1100°C
- In-situ annealing capability (RTP)
- Multi-process system: CVD, ALD, RTP,...
- Up to 8 process gas lines with MFC
- Optional glovebox interface



MC-100

100mm DLI-CVD / DLI-ALD System
Low cost of ownership

- Up to 3 direct liquid injection vaporizers
- From room temperature up to 800°C
- Multi-process system: CVD, ALD,...
- Rotating and heating substrate holder
- Up to 8 process gas lines with MFC
- Optional motorized loadlock



MC-200

200mm DLI-CVD / DLI-ALD System
Optional capacitance plasma

- Up to 4 direct liquid injection vaporizers
- From room temperature up to 800°C
- Multi-process system: CVD, ALD,...
- Rotating and heating substrate holder
- Up to 8 process gas lines with MFC
- Optional motorized loadlock



ECM Greentech
Voie des Collines
38800 Le Pont-de-Claix, France
info-pv@ecmtech.fr | www.ecm-greentech.fr

Annealsys
139 Rue des Walkyries,
34000 Montpellier, France
sales@annealsys.com | www.annealsys.com

ECM USA, Inc.
9505 72nd Avenue, Suite 400
Pleasant Prairie, WI 53158 USA
gb@ecm-usa.com | www.ecm-usa.com