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MC-200

200 mm MOCVD reactor for Research and Development

APPLICATIONS

Metal and Alloys, Transition Metal Nitrides, Oxides, Carbon Nanotubes, …

- Semiconductor: SiO_2, HfO_2, Ta_2O_5, Cu, TiN, TaN
- High k Dielectric: $SrTiO_3$, $BaTiO_3$, $Ba_{(1-x)}Sr_xTiO_3$
- Ferroelectric: SBT, SBTN, PLZT, PZT,…
- Superconductor: YBCO, Bi-2223, Bi-2212, Tl-1223, …
- Piezoelectric: (Pb, Sr)(Zr,Ti)O_3, Modified Lead Titanate
- Colossal Magneto Resistance
- Thermal coatings
- Buffer layers
- Etc…

SPECIFICATIONS

The Annealsys MC200 is a 200 mm thermally controlled wall CVD reactor especially developed to meet the requirements of research and development units for MOCVD processes.

The MC200 allows doing heteroepitaxy of oxides on single crystals wafers (such as YBCO/LAO, STO/MgO, MxOy/LAO…) by MOCVD using a wide range of solid and liquid organometallic volatile precursors.

A capacitance plasma option offer PE-MOCVD capabilities for reducing the deposition temperature.

The direct injection vaporizer allows the widest range of utilization of precursor to develop new materials

PERFORMANCE CHARACTERISTICS

- Temperature range: RT to 850 C
- Up to 4 vaporizers
- Vacuum range: Atmosphere to 10^{-3} Torr

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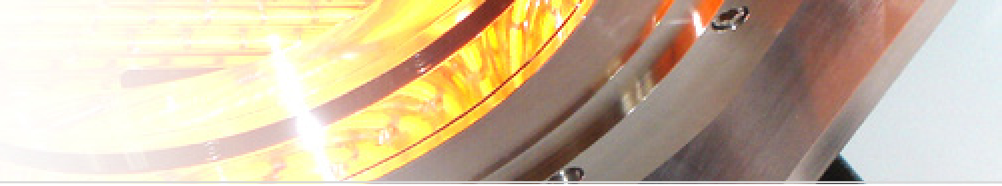

MC-200

General features

Maximum substrate diameter	200 mm
Process chamber	Stainless steel with thermally controlled walls Rotating substrate holder
Heating	Resistor heating
Plasma	Optional capacitance plasma
Temperature control	Thermocouple temperature control Digital PID temperature controllers
Vacuum, gas and liquid	Purge gas line with needle valve Up to 6 process gas lines with mass flow controllers Up to 4 vaporizer units selected function of liquid precursors Custom liquid panel depending on the application Vacuum valve and vacuum gauge Pressure control with throttle valve Optional vacuum rotary of dry pump
Control	Full PC control
Facilities	Electricity: 3x400V+N+Gr or 3x220V+Gr, 50/60 Hz Power: 20 kW Water: 2 to 6 bars, pressure drop 1 bar, 10 l/mn Compressed air: 6 bars (valve actuation) Process gas fittings: VCR ¼
Dimensions and weight	Width: 1405 mm Depth: 1504 mm Height: 2200 mm Weight: 1000 kg

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