

LC-100

Four-inch LPCVD Furnace

APPLICATIONS

- Stress free silicon rich nitride
- LPCVD
- Annealing
- Oxidation
- Etc...

SPECIFICATIONS

The LC100 is a four-inch tubular furnace for annealing and LPCVD processes. It is dedicated to small-scale production and research applications. It can process up to 50 wafers per process.

The process chamber is made of a quartz tube with stainless steel flanges. The quartz boats are held by two quartz rods attached to the loading door. The high quality, low thermal mass, heater elements provide fast thermal response. A high quality digital temperature controller controls the temperature of each heating zone.

The controller has auto-tuning capability and continuous parameter adaptation in case of process changes. This temperature control system provides highly accurate and reproducible thermal cycles. The system is provided with one purge gas line and can receive up to 12 process gas lines with mass flow controllers.

System can be customized upon customer request for special applications.

PERFORMANCE CHARACTERISTICS

- Temperature range: 500 C to 1100 C
- Gas mixing capability with mass flow controllers
- Vacuum range: Atmosphere to 10^{-6} Torr



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LC-100

General features

Maximum substrate diameter	Four inch
Process chamber	Quartz tube with water-cooled stainless steel flanges
Heating	Low thermal inertia resistor furnace
Temperature control	Thermocouple temperature control Digital PID temperature controller – 3 zones
Vacuum and gas	Purge gas line with needle valve Up to 12 process gas lines with digital mass flow controllers Vacuum valve and vacuum gauge Optional vacuum rotary of dry pump Optional pressure control with throttle valve Option turbo pump
Control	PC control
Facilities	Electricity: 3x400V+N+Gr or 3x220V+Gr, 50/60 Hz Power: 15 kW Water: 2 to 6 bars, pressure drop 1 bar, 8 l/mn Compressed air: 6 bars (valve actuation) Process gas fittings: VCR ¼
Dimensions and weight	Width: 700 mm Depth: 1700 mm Height: 1500 mm Weight: 600 kg

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