

THERMAL PROCESSING FACILITY I



MODEL: OMEGA JUNIOR TEMPRESS

INSTALLATION PLACE: Cleanroom of “Nanotechnology and Microsystems Laboratory”, Department of Microelectronics

DESCRIPTION: 6 horizontal and atmospheric furnaces each one composed of a diffusion quartz tube, surrounded by 3 resistance heating coils, in which wafers are loaded on a quartz carrier vertical to the gas flow. Digital Process Controller is designed for highly accurate thermal processing parameters and interfaces directly with Digital Temperature Controller for complete automation of the process. The Temperature System Controller is designed to provide centralized control of the furnaces.

SPECIFICATIONS

1. Tube material: quartz HSQ300, tube length: 1250mm, tube diameter: 141mm.
2. Sample size: from small samples up to 100mm diameter Silicon wafers.
3. Sample loading: Manual & automated
4. Gasses: O₂, N₂ purity: 99,999%.
5. Temperature Range (three zones): 300-1100°C, Ramp Rate: 0-15°C/min, Accuracy: ±0.1°C.
6. Length of stable temperature zone: 400mm
7. Pressure: Atmospheric

APPLICATIONS

1. Dry oxidation: 35Å - 10000 Å
2. Wet oxidation: 100Å - 10000 Å
3. Redistribution of dopant-atoms
4. Diffusion studies in semiconductors
5. Thermal annealing of thin films

CERTIFICATION/ACCREDITATION

The facility is ISO 9001:2008 certified for 35Å, 100Å and 1000Å dry oxidation processes.

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