

Rapid Thermal Processing System



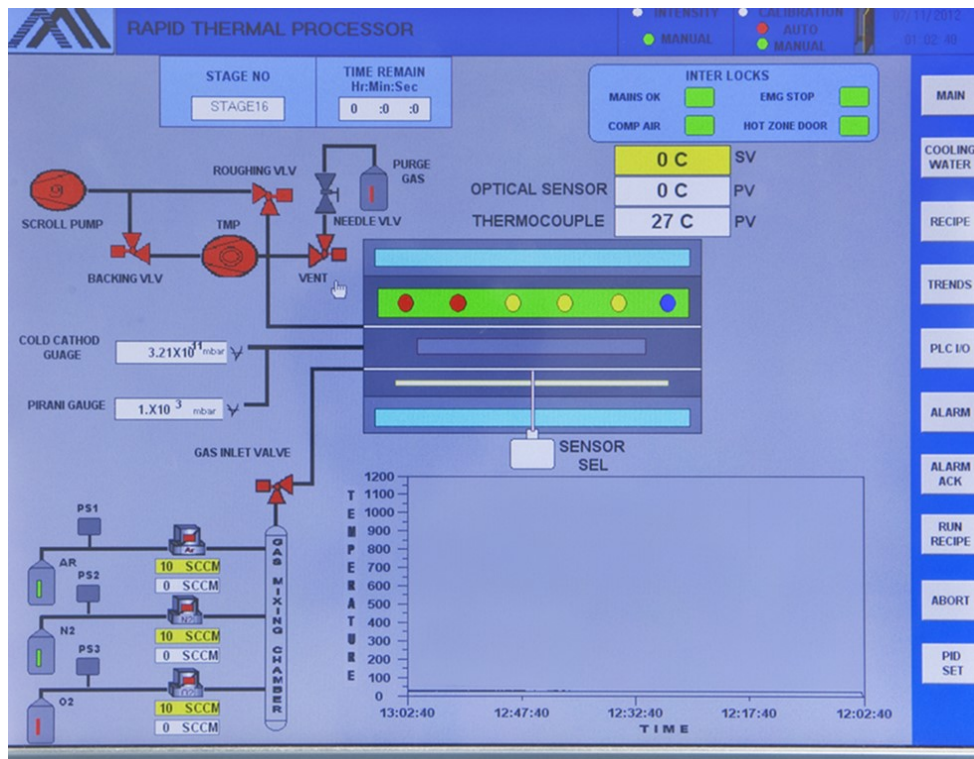
RTP- FOR TUBE TYPE

The Rapid Thermal Processor offered by Milman is state of the art specially designed equipment for processing of Silicon, Germanium, GaAs and SiC semiconductor wafers. This equipment is mainly used for applications where the substrate needs to be brought to a certain temperature just only for short time. The heating is lamp based and temperature measurement as well as control is of contactless type via a pyrometer (Optional). Provision is made for gas flow input, vacuum as well as installation of Pirani Gauge. The system is provided with HMI and SCADA software, which gives flexibility for new applications.



Main Features of the System

- Capability to reach 1200°C on silicon wafer.
- Temperature ramp rates of 100°C/sec and more.
- Control software for real time process control, data logging, and recipe editing
- Optical sensor based temperature measurement for fast response and feedback.
- State of the art double walled SS chamber for hot zone with water cooling facility
- Optimized lamp array design to provide uniformity of illumination.
- PLC-HMI Based SCADA package for recipe programming and storage.
- Closed loop PID mode (calibration mode) and intensity controlled mode operation.
- Safety interlocks for door and water flow.
- Use of “CE” certified major electrical and electronics parts.
- High reliability and low maintenance.



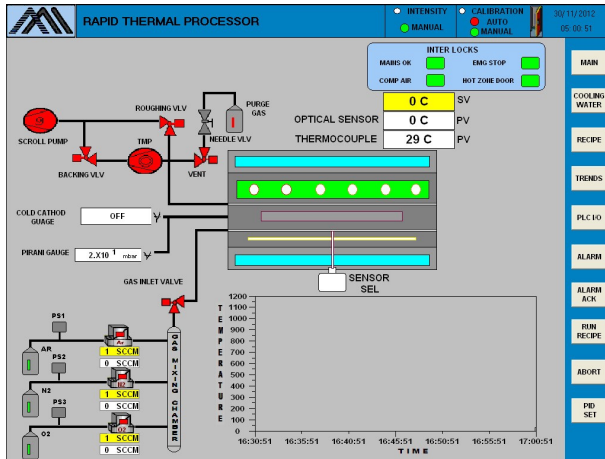
SCADA Screen for PLC-HMI based Automation

Technical Specifications

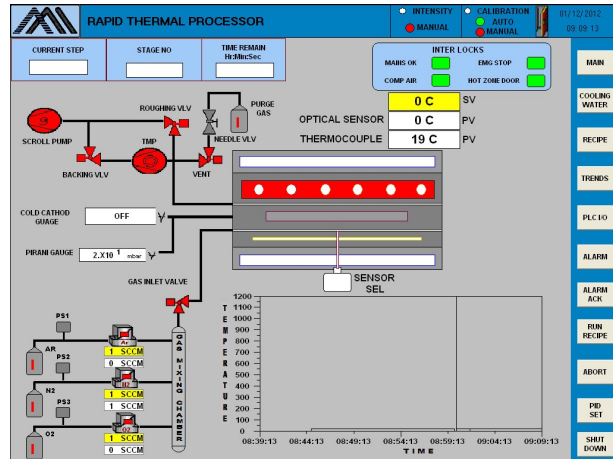
Sr. No.	Additional Features	Description
1.	Temperature Range	Ambient –1200 °C with a hold duration 900°C for 30 min.
2.	Ramp Rate	100 °C/sec and temperature stability > ±2 °C
3.	N ₂ Cooling Facility	From 1200 to 900°C
4.	Vacuum Characteristics	Pumping upto 10 ⁻⁶ Torr
5.	Substrate Holder	Sample holder for 4" substrates
6.	Utilities	<ul style="list-style-type: none"> - Cooling water – Flow rate 12 lit/min* - Inlet temperature- 18° C to 22° C - Cooling capacity – 5 Ton - Electrical Power <ul style="list-style-type: none"> ▪ Voltage – 415V ±10% Three phase AC 50Hz with proper Earth connection ▪ Power – 25 kW (Peak)
7.	Modes of Operation	Calibration Mode: In this mode the Time versus Temperature profile can be programmed and a 16 segment program (cycle) can be run
8.	Interlocks	<ul style="list-style-type: none"> - Water flow - Emergency stop - Power OK - Door closed - Compressed Air

* Temperature of cooling water should be maintained at 18°C only to avoid Water Condensation on chambers inner body.

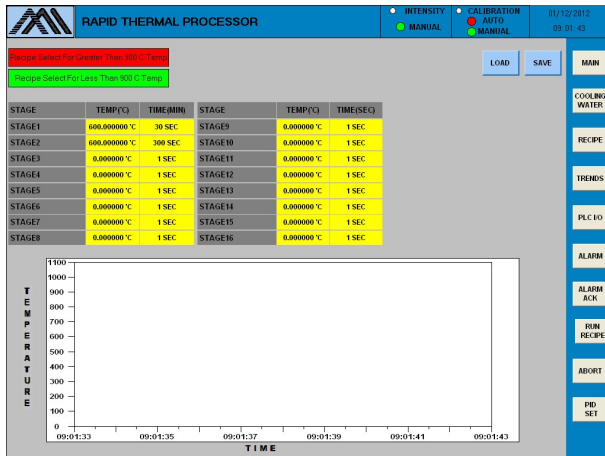




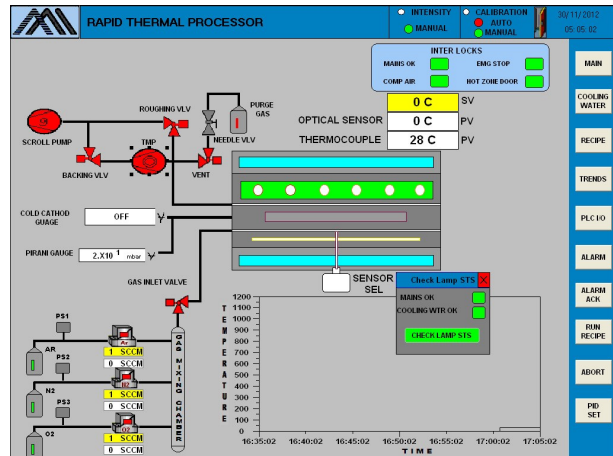
Main Screen in Manual Mode



Main screen in Auto Mode



Recipe Select Screen for temp. greater than or less than 900°C



Lamp Stand-by Pop-up Screen

MILMAN THIN FILM SYSTEMS PVT. LTD.

Vishwachhaya Industry Road,

Gat No. 322/A/1, 2 & 3,

Pirangut, Tal. Mulshi,

PUNE 412 115

Tel.: +91-7888085401 / 7888085404 / 7888085405

Mobile: +91-9881470865

Email: info@milmanthinfilms.com

