NANO TEC

CHEMICAL VAPOUR DEPOSITION SYSTEM BROCHURE

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FURNACE Split tube Furnace Maximum Number of zones: 12 Each Zone length: 75mm Heating Element: APM Grade kanthal Insulation: High quality Imported Alumina Insulation board. Temperature Sensor: N/K Type (calibration Certificate from NABL lab) Construction: Double wall mild steel with neat powder coat painting. Digital PID Microprocessor Temperature controller with 144 Programming segments. Power control through Thyristors
Vacuum Systems Double stage Rotary vacuum pump With a free air displacement 120lit/min Ultimate pressure $1x10^{-3}$ Torr. High quality vacuum lines made of Stainless steel. KF flanges, needle valves
Gas flow Control systems Type: Mass Flow Controller. Pre calibrated Gases: Air/nitrogen, Oxygen, Argon, Carbon dioxide (CO 2), 100 % propane, 100 % methane, 100 % butane and Fuel gas also Gas type set by the user. Flow range (SCCM): 0-10, 0-100, 0-200, 0-500, 0-1000, 0-2000, 0-5000, 0-10000. Pressure: 0-5bar, with Communication: RS-485 Modbus,Line size: 1/4inch RC Flow stability 0.1% of full scale or 2% of set point
Liquid Precursor Vapouriser: Container material: Quartz Liquid volume: 20mL -30mL Maximum operating temperature: 200°C with Temperature stability: 0.1°C Liquid Syring pump is optional.
Data Acquisition/SCADA

The system have a user-friendly graphical user interface (GUI), displaying the complete state of the system as a function of time, along with the parameter values set by the user.

• The system capable of monitoring and recording

(a) Furnace temperature profile and individual heater power

(b) Gas flow rate and supply pressure, (c) Tube pressure

(d) Vacuum pump and purge status

• The system interactively control the following parameters from the GUI in Real-time.

(a) Heating zone temperature set-point

(b) MFC gas type and flow set-point

(c) Vacuum pump on/off

(d) Purge valve on/off

The system capable of sequentially controlling the zone temperatures, ramps (both the number of ramps and the rates of ramping), flow rates and flushing of gases, and the turning on/off of the purge & vacuum/pump, through a user-defined recipe.

 The system capable of accepting user-defined recipes.

 It is possible for users to monitor and run recipes on the system remotely over LAN.