



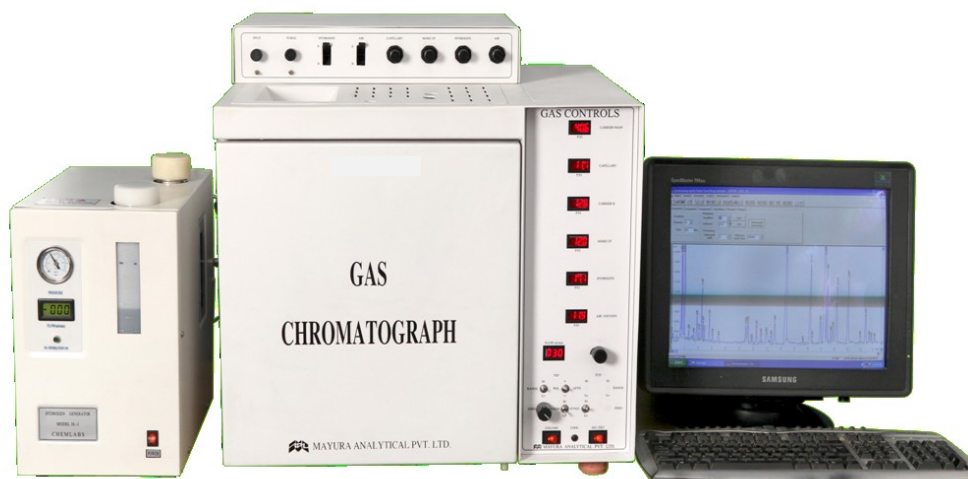
Mayura Analytical LLP

Specialists in Analytical Instrumentation

Gas Chromatograph – Model 2100

*Mayura Analytical LLP is a leading organisation in analytical instrumentation that provides solutions to research institutions and industries to diagnose and resolve their analytical needs. Our pioneering products are made in India for the Indian market and beyond since our inception in 1984. We are widely acknowledged for our approach to chemical analysis and to customer troubleshooting. As recognised suppliers of analytical equipment to the **Indian Institute of Science (IISc), Bangalore and Indian Institute of Technology (All India)**, preeminent research and technology institutions of India as well as large industries such as **BIOCON**, we have cemented our standing in the market with our cutting edge expertise and solution focussed approach.*

A built-in Auto Sampler and Auto Column Switch make the **Mayura Analytical GC Model 2100** a rare equipment for such chemical processes. This GC has been well tested for effectiveness and efficiency over the years by the process industry. IITs and IISc. in particular, have enjoyed unattended overnight operation of catalysis and reactor (gaseous) samples in following the dynamics of reactions. A totally novel concept designed with two column ovens with one for gas sample analysis at or near ambient temperatures and the other is a high-resolution capillary column oven working at temperatures of up to 400⁰C. This particular Mayura Analytical GC Model 2100 is special with multi-detectors in tandem for gas analysis of permanent gases, light hydrocarbons and oxides of carbon. The potential to analyse liquids / solid by capillary multiplies the utility of the GC. This is a very special GC with both gas and liquid analysis.





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Features of the digitally controlled and computer interfaced Gas Chromatograph

- Recommended GC for unattended overnight operation of catalysis and reactor (gaseous) samples in following the dynamics of reactions
- Two column ovens for near ambient and high temperature (400⁰C) analyses
- Multi-detectors in tandem for gas analysis of permanent gases, light hydrocarbons and oxides of carbon
- Both gas analyses by packed columns and liquids / solid analysis by capillary
- The software is 21 CFR part 11 compliant as per Pharma requirement with Hardware and Software validation

Physical characteristics - Oven (Capillary)

- Dimensions in cms. : 27 x 25 x 31 (W x D x H) cms.
- Volume : 21 litres approximately

Temperature Ranges

- Isothermal (initial) : 5°C above ambient to 450°C in steps of 1°C
- Ramp rate : 0° to 50°C per min in 1°C per min increments set through a computer with a maximum of eight ramps and a programmable display monitor
- Final Temperature : Up to 450°C
- Temperature display : 0.1°C
- Temperature accuracy : ± 0.1°C
- Overheat protection : Maximum temperature protection adjustable from 50°C to 450°C with built-in alarm and auto shut off of heating control



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Injector

One to Three Injection ports as per the user choice

- Options
 - One Capillary Column Port
 - One Packed Column Port
 - Two Capillary Columns Ports
 - One Capillary and One Packed Column Ports
 - Two Packed and One Capillary Column Ports
 - Two Packed Column Port

Detectors

- Flame Ionisation Detector
- Thermal Conductivity Detector
- Special Detectors on Enquiry

Flame Ionisation Detector

- Signal Range : High and Low
- Operating Temperature : 5°C above ambient to 450°C, $\pm 0.2^\circ\text{C}$ through computer programming
- Sensitivity : Less than 0.1PPM Hexane

Thermal Conductivity Detector

- Filament : Dual path 4 Tungsten-Rhenium filaments
- Range : High and Low
- Operating Temperature : 5°C above ambient to 450°C, $\pm 0.2^\circ\text{C}$ through computer programming
- Sensitivity : Less than 1 PPM Oxygen



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Pneumatics

Carrier gas

- Precise column carrier gas regulation that can be set within ± 0.1 PSI
- Digital display of the pressure set to the column
- Excellent retention time reproducibility
- Digital pressure display configured to the GC procurement
- Digital flow display in case of packed column with the control from imported differential flow controllers (1 / 2)
- Digital column back pressure display to improve high precision in capillary column use
- Make-up gas precision regulation and digital pressure display and control
- Hydrogen for Flame Ionisation Detector (FID) with precise pressure control on a digital display
- Air or Oxygen for Flame Ionisation Detector (FID) with precise pressure control on a digital display
- Pressure range : 0 – 60 PSI
- Pressure accuracy : ± 0.1 PSI
- Pressure readability : ± 0.1 PSI

Digital pressure display for precise gas control

- Capillary column : Pressure
- Packed column : Digital flow setting with imported DFC
- Makeup Gas for FID : Digital pressure setting
- Hydrogen for FID : Digital pressure setting
- Oxidant / Air for FID : Digital pressure setting
- Flame Ionisation Detector : Electronic control of range