



Mayura Analytical LLP
Specialists in Analytical Instrumentation

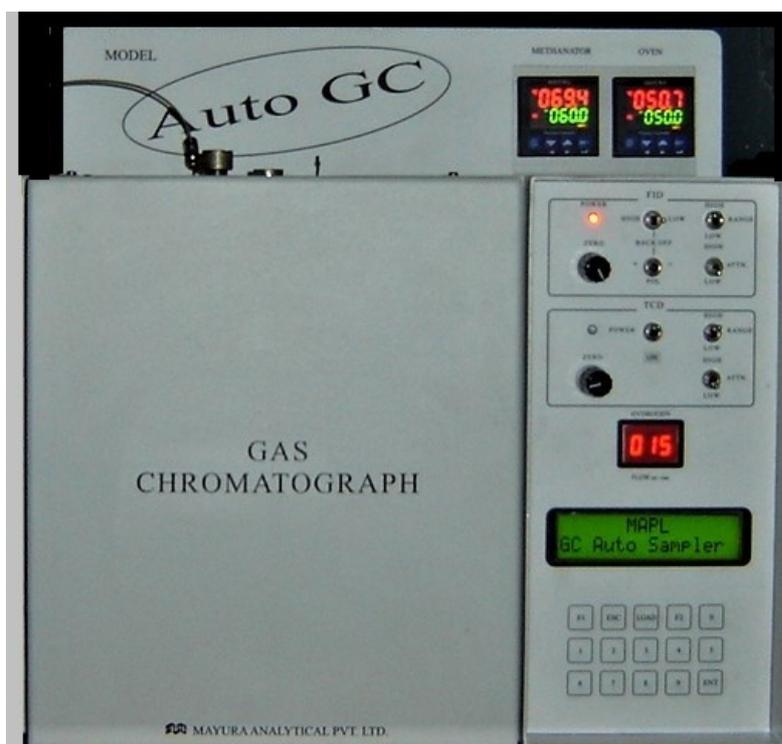
Gas Chromatograph – Model Auto GC

*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.*

Model Auto GC has a built-in auto sampling device for On-Line analysis such as process monitoring. The microcontroller based unit has a key board display combination for the sample sequence programming. 1 - 99 samples can be programmed with time and frequency of analysis. The built in Auto Sampler and Auto Column Switching (motorised unit) mechanism ensures long column life (even for Molecular Sieve column) by bypassing components like CO₂ and H₂O from entering into the column.

The Auto GC sends a signal for the Data Station to start. This helps in over-night process monitoring from chemical reactions. It has been successfully employed in Biogas plants.

IISc, for instance, has benefitted the most from this approach as well as Singareni Collieries Company Limited (SCCL), Telangana who use 8 of these GCs.





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Features of the digitally controlled and computer interfaced Gas Chromatograph

- GC with precision process parameter settings controlled through a computer
- Gas pressure settings with digital display is a unique feature
- Digital pressure display and accuracy of ± 0.1 PSI
- Column oven, injector and detector temperature settings controlled through a computer
- Gas analysis model with temperature range of up to 200°C
- Perfect for On-line Gas analysis of complex mixtures
- Available in Auto or Manual column switching techniques



Physical characteristics

- Dimensions in cms. : 48 x 40 x 30 (W x D x H) cms
- Oven dimensions : 17 x 15 x 20 (W x D x H) cms
- Volume : 5.1 litres

Temperature Ranges

- Isothermal (initial) : 5°C above ambient to 200°C in steps of 1°C
- Final Temperature : Up to 250°C
- Temperature display : 0.1°C
- Temperature accuracy : $\pm 0.1^{\circ}\text{C}$
- Overheat protection : Maximum temperature protection adjustable from 50°C to 200°C with built-in alarm and auto shut off of heating control

Injector



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- Packed Columns (1/8" O.D) – Hayasep and Molecular Sieve
- Auto or Manual injection

Detectors

- Flame Ionisation Detector
- Thermal Conductivity Detector

Flame Ionisation Detector

- Signal Range : High and Low
- Sensitivity : Less than 0.1PPM Hexane
- Methanator : CO and CO₂ reduction and FID Detection

Thermal Conductivity Detector

- Filament : Dual path 4 Tungsten-Rhenium filaments
- Range : High and Low
- Sensitivity : Less than 1 PPM Oxygen

Methanator

- Uses a non-degradable catalyst for the reduction (conversion) of oxides of Carbon to Methane for PPM detection

Pneumatics

Carrier gas

- 0-4 Kg/cm² for pressure regulator for precise column carrier gas regulation that can be set within ±0.1 PSI



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- Digital display of flow setting to the column
- Digital pressure gauge for all gases (Ar, H₂, O₂)
- Excellent retention time reproducibility
- Digital flow display in column with the control from imported differential flow controllers
- Hydrogen for Flame Ionisation Detector (FID) with precise pressure control on a digital display (0-4 Kg/cm²)
- Air for Flame Ionisation Detector (FID) with precise pressure control on a digital display (0-4 Kg/cm²)
- Pressure range : 0 – 60 PSI
- Pressure accuracy : ± 0.1 PSI
- Pressure readability : ± 0.1 PSI

Digital pressure display for precise gas control

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