

# GAS CHROMATOGRAPH, RIC-I-151

## Applications:

Gas Chromatograph, made according to international standards, its technical feature and index are in the world high level. It is widely used for petrol-chemistry, environmental protection, epidemic prevention, pharmacology, scientific research etc.

## Features:

### ✎ Self diagnostic function :

- 1) Core tests
- 2) Automatic tests
- 3) Extended tests
- 4) Basic tests

Monitor the status of GC continuously. Once finding faults, it'll display the information and show the wrong zone and the settling method.

### ✎ Self protective function :

- 1) Overrun temperature protection
- 2) Short circuit hint
- 3) TCD filament protection
- 4) FID flameout hint
- 5) PFD exposed light protection
- 6) Key board locking with password etc.; ensuring normal running.

### ✎ Simple operation, powerful automation :

- 1) All parameters can be entered through keyboard with prompt function
- 2) 4 sets of complete chromatography analysis methods can be stored and recalled automatically.
- 3) An auto sampler can be connected
- 4) Parameters can be modified instantly while the GC is running
- 5) Chromatography analysis method can be activated for 99 times repeatedly at the same time, it's especially suitable for unattended operation.

### ✎ More choices of injectors:

- 1) On-Column injector for packed column
- 2) Flash vaporization injector for packed column
- 3) Automatic or manual gas inject valve
- 4) Headspace sampler
- 5) Thermal desorption system
- 6) Split / Splitless capillary injector; three injectors or two Split / Splitless capillary injectors can be fixed on GC.

### ✎ More choices of detectors :

- 1) TCD; 2) FID; 3) ECD 4) FPD 5) TSD
- Maximum of two TCDs or three different kinds of detectors can be installed.

### ✎ Reactor : 1) internal; 2) external

### ✎ Time programming of detectors :

Each of detectors has 5-ramp programmable time control. Output signal, attenuation range and polarity can be set automatically.

### ✎ Time programming of external events :

Providing 4 external events with 20-ramp programmable time control. The optional GC relays may be used to automate valves, operate split/ splitless capillary injectors, drive auxiliary devices, or switch signals between detector A and detector B in a run.

### ✎ Many kind of special purpose GC can be provided according to user's request.



## Specifications:

### **Column oven:**

Operating temperature range: ambient temperature to 400 °C  
Dual opening door at the back of column oven  
Cooling time: 250°C to 50°C in 5 min.;  
Programmable oven with 4 ramp temperature control  
Temperature programming rate: 0.1 ~ 50°C/min

### **Injector system :**

Operating temperature range: ambient temperature to 400°C

### **Thermal conductivity detector TCD :**

Maximum temperature: 400°C  
Sensitivity:  $\geq 10000\text{mv} \cdot \text{mL/mg}$  (for butane)  
Linear range:  $10^5$   
Current range: 50 to 400mA

### **Filament protection :**

If He or H<sub>2</sub> carrier gas flow in the detector cell is cut off for 4 minutes, filament power will be shut off automatically.

### **Flame ionization detector- FID:**

Maximum temperature: 400°C  
Minimum detectivity:  $\leq 5 \times 10^{-12} \text{ g/s(n-C}_{16}\text{)}$   
Linear Range:  $10^7$   
Flameout hint: monitoring the status of GC Continuously after being tuned on

### **Electron capture detector- ECD :**

Maximum temperature: 400°C  
Minimum detectivity:  $\leq 0.1\text{pg/mL}$  ( $\gamma\text{-666}$ )  
Linear range:  $10^4$   
Emission source:  $11\text{mC}^{63} \text{ Ni}$

### **Flame photometric detector FPD:**

Maximum temperature: 400°C  
Minimum detectivity:  
[P]  $\leq 2 \times 10^{-12} \text{ g/s}$  (tributyl phosphate)  
[S]  $\leq 2 \times 10^{-10} \text{ g/s}$  (p-methylsulfurphosphate)  
Linear range: [P]:  $10^5$  [S]:  $10^3$   
Two air- hydrogen flames: For large volume injection or trace sample injection analyses;  
Single air hydrogen flame: sulfur sensitivity can be increased;  
Direct output: for phosphorus or sulfur analyses;  
Square- root output for sulfur analyses;  
Exposedlight protection:  
When exposedlight current is more than  $12\mu\text{A}$ , high voltage will be cut off automatically.

### **Nitrogenphosphorus detector NPD :**

Maximum temperature: 400°C  
Minimum detectivity:  
[N]  $\leq 2 \times 10^{-13} \text{ g/s}$  (azobenzene)  
[P]  $\leq 1 \times 10^{-13} \text{ g/s}$  (p-malathion)  
Linear range: [N]:  $10^5$  [P]:  $10^4$



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