

GAS CHROMATOGRAPH, RIC-I-152

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 420°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 420°C

Thermal conductivity detector TCD:

Maximum Temperature: 420°C
Sensitivity: ≥ 12000 mv; mL/mg (for butane)
Linear range: 10^5
Current range: 50 to 400 mA

Filament protection :

If He or H₂ 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: $\leq 5 \times 10^{-12}$ g/s(n-C₁₆)
Linear Range: 10^7
Flameout hint: monitoring the status of GC Continuously after being tuned on

Electron capture detector ECD :

Maximum temperature: 420 °C
Minimum detectivity: ≤ 0.1 pg/mL (γ-666)
Linear range: 10^4
Emission source: 11mC⁶³Ni

Flame photometric detector- FPD :

Maximum temperature: 420 °C
Minimum detectivity: [P] $\leq 1 \times 10^{-12}$ g/s (tributyl phosphate)
[S] $\leq 1 \times 10^{-10}$ g/s (P- methylsulfurphosphorous)
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;
Exposed- light protection;
When exposed- light current is more than 12μA, high voltage will be cut off automatically.

Nitrogen- phosphorus detector TSD :

Maximum temperature: 420 °C
Minimum Detectivity:
[N] $\leq 1 \times 10^{-13}$ g/s (azobenzene)
[P] $\leq 5 \times 10^{-14}$ g/s (malathion)
Linear Range: [N]: 10^5 [P]: 10^4

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