Application Areas

◆
Trace toxics analysis, monitoring and research in environmental protection, atmosphere and water source poll ution;

◆Biochemistry, clinic application, pathology and toxicology research;

◆Microorganism analysis and research in food ferment, and microelements analysis in beverage;

◆Intermediate and finished product analysis in Chinese and western medicine materials;

◆
Crude oil composition analysis and control in petroleum processing, petrochemical industry, petroleum geologi cal industry,
and geological prospecting research;

◆Component research and production control in organic chemistry and organic synthesis;

◆Analysis and research in sanitary quarantine, labor protection, and hazard detection;

◆Monitoring, control and research in cutting-edge science and military technologies.

Features

◆Newly designed, high performance HRGC

◆Double FID detectors in the basic type with wide accessory options such as GCI22-
TCD thermal conductivity detector,
GCI22-ECD electron capture detector, GCI22-NPD nitrogen and phosphorous detector, GCI22-
FPD flame photometric detector,
converter, gas sample inlet valve, etc.

◆
In the basic type, the instrument has dual packed columns, double samplers and dual gas path system structure, which can effectively restrain baseline fluctuation and drift in real time, suitable for temperature programming anal ysis.
The instrument can work with three types of detectors at the same time. With different detector combination in diff erent application,
the instrument can support detectors working in either cascade or paralleled connection.

◆
The instrument in the basic type is equipped with completed capillary analysis system and independent capillary

split sampler,
which includes diaphragm cleaning, split flow and auxiliary gas adjustment. It supports capillary split / split less sampler, cold oncolumn
sampler, and 0.53mm large diameter capillary column direct sampler. It's suitable for all kinds of capillary column of various diagrams,
speculations, and lengths, and made of glass or flexible silicon glass.

◆

The gas path of the instrument adopts high precision scale flow control valve, unloading valve and needle valve. It's easy to adjust
low capability and has better reproducibility and stability.

◆The instrument supports following injection methods:

Ø Packed column:on-column sample injection, instantaneous vaporizing sample injection, gas sample injection

Ø Capillary column: split injection, split less injection, large diameter column direct injection

◆

Newly developed computer aided temperature control system. It can manage the temperature control of six path heating areas
at the same time, including column, ion chamber, thermal conductivity detector, capillary column sampler, packed column samplerauxiliary
and standby, with high precision (less than ±0.1℃) and wide range (up to 400℃), and temperature overload and deviation is less than 2℃ or even lower.

◆The column has five-phase programmed temperature control, and the highest heating rate is up to 40℃/min.

◆The system has such functions as switch-
off protection, temperature limit setup, temperature scanning, rapid automatic cooling, i.e. back opening door, and etc.

◆Open-end computer system can apply RS-232 interface and N-
2000 chromatogram workstation to achieve single path communication control and data processing.

◆

Large volume full lens stainless column (350mm×280mm×300mm) can support capillary column and dual packed columns at the same time. Inner placed heating wire structure can facilitate silicon capillary column analysis

Performance Indicators:

◆Temperature control range: 7℃-400℃ of room temperature (increment by 1℃)

◆

Temperature control objects: column, ion chamber, thermal conductivity, sampler A, sample B, auxiliary (standby)

◆Temperature programming phase: five

◆Temperature programming rate: 0.1℃-40℃／min(increment by 0.1℃)

Flame Ionization Detector (FID)

Sensitivity：M≤1×10^{-11}g/s(sample: C16)

Optimal test result: M≤5×10^{-12}g/s

Baseline noise: ≤5×10^{-14}A

Baseline drift: ≤6×10^{-13}A/h

linear range: ≥10E6

GC122 Special Purpose Detectors

◆GC122-TCD Thermal Conductivity Detector

Technology Indicators

Sensitivity: S ＞ 2500mV · ml/mg

(carrier gas H2)

(sample: n-Hexadecane)

baseline noise: ≤20 μV

linear range: ≥ 10^4

Features

Applying rhenium tungsten filament, constant current power supply, different magnifying circuit, and mini-type conductivity

◆GC122-ECD Electron Capture Detector

Technology Indicators

Detection limit: Mt≤2 × 10^{-13}g/s

(sample: n-hexane σ ,-666);

baseline noise: ≤ 10 μA

linear range: ≥10^3

Features

Ni-63 radioactive source applied, up to 350℃ working temperature, very high sensitivity to halogen compounds.

◆GC122-NPD Nitrogen and Phosphorous Detector

Technology Indicators

Detection limit:

nitrogen: Mt ≤ 5×10^{-11} g/S;

phosphorus: Mt ≤ 5 × 10^{-12} g/S

baseline nose : ≤ 4 × 10^{13}A

linear range : ≥10^3

Features

High stability rubidium applied, suitable for nitrogen phosphorus compound residue analysis.

◆GC122-FPD Flame Photometric Detector

Technology Indicators

Detection limit:

nitrogen: Mt≤ 2x10^{-11} g/S,

phosphor: Mt ≤1×10^{-10}g/S

Baseline noise:≤10 μV

Linear range: nitrogen≥10^3; sulphur≥10^2

Features

Dual flame structure, light-guide fiber signal transmission line applied, greatly reducing the high temperature affection on electric components, suitable for phosphorus, phosphor trace analysis.

Overall dimension & weight:

Shipping package dimension: 1000-720-870mm

Net Weight: 100kg

Gross Weight: 120kg

Gross Weight: 65kg

Optional accessories:

◆TCD

◆FPD

◆NPD

◆Software with I/O port