GC 7900

Fully automatic digital gas chromatograph

INTRODUCTION

GC 7900 gas chromatograph, with mature and stable technology, mainly used in environmental science, food safety, petrochemical, fine chemical, electronic high purity gas industry, suitable for scientific research institutes, quality inspection, safety supervision, public security forensic and national security and other fields of analysis and detection.

PERFORMANCE CHARACTERISTICS

● High Precision Gas Flow Control System (AFC)

A. AFC digital control technology is adopted to improve the automatic analysis and online analysis ability, and the overall performance is close to the international first-line brands.
B. High precision gas flow control ensures accuracy of GC analysis and improves efficiency of daily analysis. AFC control accuracy is 0.01psi.
C. It realizes the functions of self-protection, automatic ignition, flameout key, automatic opening of the gas circuit, so as to achieve a key start.
D. A variety of combined control mode operation, pressure flow automatic adjustment, control and display, can run the gas-saving mode.

● Color widescreen screen, unique design of touch buttons

A. 7 inch industrial color LCD screen design, more complete display information, more reasonable interface operation.
B. It has two operating systems, Chinese and English, to meet different user needs.
C. Resistive touch screen is adopted, with good feel and durability, and seamless connection between screen and software dual operation.

● Leading structural design

A. Modular structure design, easy to upgrade. A variety of high-performance detectors can be selected, such as FID, TCD, ECD, FPD and NPD, to meet the needs of a variety of samples.
B. Advanced injector design, unique lining tube construction and special treatment process ensure extremely low residual adsorption.
C. Suitable for various injection methods, such as headspace injector, thermal analyzer, automatic liquid injector, thermal cracking injector, etc.
D. Designed timed self-start program, which can easily complete laboratory online analysis of gas and liquid samples.

● User experience software operating system

A. Advanced 10/100M self-applicable Ethernet communication interface, built-in IP protocol, easy to form a LAN, remote transmission, remote control, remote diagnosis.
B. Simple interface and powerful data processing function realize rigorous and efficient automation of GC analysis and management.
C. Equipped with IBrainChrom workstation, which can support the simultaneous operation of multiple chromatographs (253) to achieve data processing and reverse control.
D. With complete audit tracking, user rights management, electronic signature and other functions, so that the data and documents are in line with GMP management requirements.

E. Modbus/TCP server built into IBrainChrom workstation makes it easy to access analysis results to DCS (distributed control system)
F. Three independent connection threads are designed internally, which can be connected to the local, the supervisor of the unit and the superior competent department for processing, so as to facilitate the supervisor and superior competent department to monitor the operation of the instrument and analyze the data in real time.

THE MAINTECHNICAL INDICATORS

· **Temperature control area:** route 8
· **Temperature control range:** 5 ~ 450℃ above room temperature, increment: 1℃, accuracy: ±0.01℃
· **Temperature programmed order:** 16
· **Programmed heating rate:** 0.1 ~ 40℃ /min (common type); 0.1 ~ 60℃ /min (high-speed)
· **External events:** route 6
· **Type of injector:** filling column and capillary injection
· **Number of detectors:** FID, TCD, ECD, FPD and NPD; 3 (maximum)
· **Air path control:** AFC mode
·**AFC working mode:** 2; Constant current mode, constant voltage mode
·**AFC range: pressure:** 0 ~ 0.6mpa; Flow rate 0 ~ 100mL/min or 0 ~ 500mL/min (air)
· **Pressure sensor: accuracy:** full scale <±2%; Reproducibility: <±0.05 KPa; Temperature coefficient: <± 0.01 KPa/℃· **Flow sensor: accuracy:** full scale <±5%; Reproducibility: <±0.5%(full scale); Range: 0 ~ 500mL/min
· **Start sampling:** manual and automatic optional
· **Communication interface:** Ethernet
· **Power supply:** 220V±10%, 50Hz; 2500W (maximum)
· **Volume:** 585×503×525mm
· **Weight:** 50kg (approx)

DETECTOR TECHNOLOGY INDICATORS

FID

- Detection limit： Mt ≤ 3×10^{-12}g/s （n-hexadecane - isooctane solution）
- Noise： ≤ 5×10^{-14}A
- Drift： ≤ 1×10^{-13A}/30min
- Linear range： ≥ 10^{6}

TCD

- Sensitivity S ≥ 3500mV·mL/mg（conventional）5000mV·mL/mg（High sensitive）（Benzene-toluene solution）
- Noise： ≤ 10μV
- Baseline drift≤ 30μV/30min
- Linear range： ≥ 10^{4}

ECD

- Detection limit： ≤ 1×10^{-14}g/s
- Noise： ≤ 0.03mV
- Baseline drift： ≤ 0.2mV/30min
- Linear range： ≥ 10^{3}
- Radioactive source： Ni63

FPD

- Detection limit： （S）≤ 5×10^{-11}g/s ,（P）≤ 1×10^{-12}g/s;
- Noise： ≤ 0.03mV
- Baseline drift： ≤ 0.2mV/30min
- Linear range： ≥ 10^{3}（S）,10^{2}（P）