



GDC-9560B Gas Chromatograph Analyzer



I. General Information

GDC-9560B Gas Chromatograph Analyzer is to analyze the gas content of insulation oil by gas chromatographic method. It is effective to judge if the running equipment has potential fault like over-heat, discharge or not, to ensure the safety of power grid. It is also necessary to be used for manufacturer of gas/oil equipment to inspect their equipment before leaving factory.

The gas is considered as carrier gas. When sample gas is sent to sample injector, it will enter into packed column or capillary column by carrier gas. As the boiling point, polarity and adsorption coefficient of each components of sample gas are different, the components will be separate, then the detector behind will detect each components in sequence according to physicochemical characteristic. At last, the chromatographic analyzer will record and analyze the chromatogram of each components and get the results.

II. Features

1. 5.7-inch color LCD screen, meets the demands of different users.
2. Using advanced 10/100M adaptive Ethernet communication interface, and built-in IP protocol stack, realizing long distance data transmission easily through intranet and internet.
3. Design of 3 independent connection process. It can be connected with local processing(laboratory), more convenient for supervisors to monitor running status and analyze the results.
4. Equipped with network edition workstation, simultaneously support multiple chromatograph working, with data processing and control, which simplifies the document management, and reduce the lab investment cost and running cost.
5. System in English and Chinese, which can be switched freely.
6. Using a multiprocessor parallel working mode, more stable and reliable. It meets complex sample analysis, FID and TCD detector are supplied. Other detector can be optional if necessary.
7. One piece TCD detector and 2pcs FID detectors are supplied, including H₂ and O₂ are detected by TCD detector, hydrocarbon gas such as methane, ethylene, ethane, acetylene are detected by FID1 detector, CO and CO₂ are detected by FID2 detector.
8. Brand-new microcomputer temperature control system,high precision and reliability. 6-channels independent temperature control system, 16steps temperature programmed, broad range sample analysis. It also has automatic door system to improve the LV temperature accuracy and faster temperature speed.
9. Modular design, clear and convenient to upgrade system.
10. With timing and self-starting program, easily complete online analysis of gas sample.(It is necessary to select online sample components by users.)
11. Full computer keyboard operation system, simple operation, more convenient. Detectors have automatic identification technology. It also has fault diagnosis and power-off data protection function, automatic memory setting parameters.
12. Built-in low noise, high resolution 24digit AD circuit, and functions of baseline storage/deduction.
13. Suitable for using in WinXP, Win2000, Windows7 operation system. Standard CDF file will be read for sampling data, so it can be integrated with Agilent, Waters chromatographic work station.
14. With MODBUS/TCP standard port, easy to connect with DCS.

15. It can be integrated with automatic sampler produced by various manufacturer, such as Shimadzu AOC-20i, HTA HT series liquid/gas sampler.

III. Specifications

Temperature control range	room temperature 5-400°C, step 1°C, accuracy $\pm 0.1^\circ\text{C}$
Temperature increasing steps	16 steps.
Increasing speed	0.1-40°C/min
Gas control	Mechanical valve control mode and electronic pressure flow control mode for option.
External event	4 channels.
Sampler type	Packed column, capillary tube, six-way valve gas sampling, automatic head-space sampling for option.
Detector	FID, TCD, ECD(optional), FPD(optional)
Start mode:	Automatic or manual.
Communication port	Ethernet, IEEE802.3

FID(flame ionization detector)

Detection limit	$\leq 2 \times 10^{-11} \text{g/s}$ (Hexadecane/isooctane)
Baseline noise	$\leq 5 \times 10^{-14} \text{A}$
Baseline shift	$\leq 1 \times 10^{-13} \text{A/30min}$
Linear range	$\geq 10^6$

TCD(thermal conductivity detector)

Sensitivity	$S \geq 2500\text{mV}\cdot\text{ml}/\text{mg}$ (benzene/methylbenzene) (enlarge 1, 2, 4, 8 times for option)
Baseline noise	$\leq 20\mu\text{V}$
Baseline shift	$\leq 30\mu\text{V}/30\text{min}$
Linear range	$\geq 10^4$

ECD (electron capture detector) optional

Detection limit	$1 \times 10^{-13}\text{g}/\text{ml}$ (Hexachlorocyclohexane/isooctane)
Baseline noise	$\leq 0.03\text{mV}$
Baseline shift	$\leq 0.2\text{mV}/30\text{min}$
Linear range	10^3
Radioactive source	^{63}Ni

FPD (flame photometric detector) optional

Detection limit	(S) $\leq 5 \times 10^{-11}\text{g}/\text{s}$, (P) $\leq 1 \times 10^{-12}\text{g}/\text{s}$ (parathion-methyl/ absolute ethyl alcohol)
Baseline noise	$\leq 3 \times 10^{-13}\text{A}$
Baseline shift	$\leq 2 \times 10^{-12}\text{A}/30\text{min}$
Linear range	Sulphur $\geq 10^2$, phosphorus $\geq 10^3$