

GC-6890 Gas Chromatograph can be used to measure residual solvent for packaging industry or other related industries and detecting institutions. It is the best choice for the determination of residual solvent, smell analysis, and solvent purity.



Professional Technology

- GC-6890 comes with characteristics of profession, reliability, precision and competitive price, which is equipped with hydrogen flame ionization detector (FID).
- The instrument is controlled by micro-computer and integrated circuit, with big display screen. Functions of keyboard inputting parameters, power failure protection and file storage or inquiry provide a comfortable operating environment.
- Detectors with control elements utilize plug-and-play (PNP) extension control mode
- Constant temperature or temperature program can be achieved in this instrument. And preset temperature of chromatographic column chamber could be reached through automatic open-close of its flexible back door.
- Gas tube is flexible and reliable which is extendable for different feeding gases or tests.
- Sampler system is equipped with packed column, capillary column and other devices to transfer test gases into the system.
- Instrument is designed with functions of lower pressure for carrier gas tube and protection for gas transmission interrupt.
- High temperature protection is applied so that instrument could stop working and alarm when the temperature of any gas tube exceeds the preset temperature (set at 20°C).
- 1500mV wide range of response signal, with good consistency, could meet analysis requirements of high purity samples.
- Good performance of chromatographic column box makes it possible to achieve the operation at room temperature+3°C, even when the temperatures of detection and vaporizing chambers are as high as 200°C. Instrument comes with good repeatability of temperature program to ensure the retention time consistency of sample components.
- Special designed operating software and hardware could automatically monitor the whole operating process, which creates a safe test environment for users.
- Instrument could be easily connected with chromatography data converter, data system or other graphing devices.
- Professional chromatographic data system provides powerful and intelligent data process function to automatically identify the names and quantities (mg/m²) of residual solvents of tested samples in accordance with reference data. Instrument is also available for the detection of solvent purity.

Test Principle

A gas chromatograph is a separating or analytical instrument for mixture containing various components. It takes

the inert gas as mobile phase, and utilizes the chromatographic column separation technology. The mixture injected into the instrument follows the carrier gas into a separation tube known as “column”. Because of different distribution coefficients in the column, distinct components will display different mobile speeds. After certain column, the analyzed components will leave the column consecutively into the detector where corresponding electrical signals will be generated and taken to chromatography data system. The detection analysis of tested mixture is accomplished.

Applications

Basic Applications	Residual Solvent	For the residual solvent analysis test of plastic films, paper-plastic composite films for food and drugs, and , cigarette packaging materials
	Purity Analysis	For the purity analysis test of various solvents used in packaging and printing materials
Extended Applications (Special Accessories or Customization Required)	Chlorethylene Analysis	For the content analysis of Chlorethylene
	Automatic Sampler	Perform the test automatically to minimize the errors caused by human factors

Technical Specifications

Temperature of Chromatographic Column Chamber	Temperature Range	Room Temperature +3°C~ 399°C
	Accuracy	Better than ±0.1°C
	Temperature Gradient	Effective range of column is less than 2%
	Temperature Deviation	Deviation between preset temperature and display temperature is less than 1°C
	Temperature Deviation	Deviation between preset temperature and actual temperature is less than 2%
Orders of Temperature Program	4 orders	
Rate of Temperature	0.1 ~ 30°C/min	
Temperature Range of Linear Temperature Program	Lower than 150 °C while 30°C per minute Lower than 300 °C while 15°C per minute Lower than 350 °C while 10°C per minute	
Control Time from Primary to Terminal Temperature	0 ~ 600 min	
Repeatability of Temperature Program	Less than 2%	
Temperature Decreasing Speed	Less than 15 min from 300°C to 50°C	
Vaporizing Chamber	Temperature Accuracy	±0.1°C(room temperature +15°C ~ 200°C)
		±0.2°C while temperature is higher than 200°C

Test Chamber	Temperature Accuracy	±0.1°C(room temperature +15°C ~ 200°C)
		±0.2°C while temperature is higher than 200°C
Flame Ionization Detector (FID)	Testing Limit	Less than 2×10^{-11} g/s (Benzene)
	Noise	Less than 0.025 mV
	Drift	Less than 0.15 mV/h
Mainframe	Power Supply	AC 220V 50Hz
	Instrument Dimension	510 mm (L) x 490 mm (W) x 480 mm (H)
	Net Weight	45 kg

Configurations

Standard Configurations	Gas Chromatograph Mainframe, Hydrogen Flame Ionization Detector, Capillary Analytical Column, and Chromatography Data System
Note	<ol style="list-style-type: none"> Customers will need to prepare for gas supply (high purity nitrogen, high purity hydrogen, dry and oil-free air), analytical reagent (added in the process of printing or composition), headspace bottle, 1mL glass syringe (with 5# needle), and computer. Chromatographic analysis laboratory of Labthink will build test methods and provide operation training for free.

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