



# GC5400

Gas Chromatograph



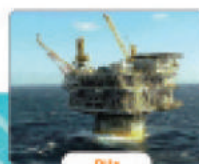
Chemistry



Agriculture



Medicine



Oils



Food

## intelligent and multifunctional gas chromatograph

GC-5400 Gas Chromatograph incorporates advanced modern manufacturing technologies with years of experience in research and development. Our multi-functional, easy-to-use and remotely controllable gas chromatograph provides superior performance for all applications.

GC5400 comes with choice of Flame Ionization Detector (FID), Thermo Conductivity Detector (TCD) and Electron Capture Detector (ECD). With different combinations of detectors in series or parallel operation, GC5400 can meet different application requirements. With patented electronic amplification circuit maximum sensitivity of 5000mV•mL/mg can be achieved.

GC-5400 gas chromatograph plays a critical role in environmental protection, quality control and petrochemical industries as well as chemistry, medicine, forensic science, agriculture and food industries



## Gas Chromatograph

# GC 5400



## High

### Performance Large Column Oven

Large column oven of GC5400 can fit capillary column and double packed columns simultaneously. Thanks to rapid heating/cooling technology GC5400 is able to lower temperature from 350 C to 50 C in less than 7 minutes

#### Precise Pneumatics

Carrier gas pneumatics features dual stability design with constant pressure valve and constant flow valve.

Constant pressure valve and needle valve are used in the Hydrogen air pneumatics for stable gas regulation and intuitive flow rate adjustment

#### GC-5400 can be equipped with up to three detectors:

- ➔ Flame Ionization Detector (FID), Thermo Conductivity Detector (TCD) and Electron Capture Detector (ECD). Different combinations of detectors, equipped in series or parallel, can meet different applications
- ➔ FID Detector features lower limits of detection and high stability
- ➔ TCD Detector adopts high resistant rhenium-tungsten wire with electronic amplification circuit, resulting in max sensitivity up to 5000mV·mL/mg
- ➔ FCD Detector features computerized sensitivity and current selection of pulse modulation



## Gas Chromatograph

# GC 5400

### Models

GC5400-1

Capillary column injector(with septum purge, split back pressure valve) +makeup gas +SE54 Ø0.25×15m capillary column + FID

GC5400-2

Double packed column injector + TCD

GC5400-3

Double packed column injector + double FID

GC5400-4

Double packed column injector + capillary column injector (with septum purge, split back pressure valve) +double FID

GC5400-5

Double packed column injector + independent capillary column injector (containing carrier gas control, septum purge, split back pressure valve) + make-up gas + double FID

### Main Configuration

### Accessories

Split/splitless capillary column injector

Split/splitless capillary column injector, independent temperature control, independent pneumatics (containing carrier gas control, septum purge, split back pressure valve), makeup gas setting, inlet cleaning solenoid valve, split/splitless injection

GC5400-TCD

Thermal Conductivity Detector with independent temperature control

GC5400-ECD

Electron Capture detector with independent temperature control

Software

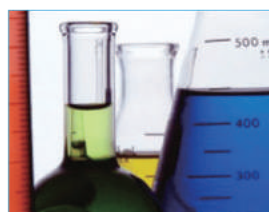
Built in interface module+ work station software

Dual-channel work station

Independent external dual-channel data acquisition + work station software

Simulation software

Unique chromatographic simulation software provides simulated searching of optimum operating conditions and simulated training



## Technical Specifications

Temperature Control	
Temperature range	7°C ~ 400°C above room temperature, increment 1°C
Temperature control objects	Column oven, detector, thermal conductivity cell, injector, accessories
Temperature ramps	5-stage
Temperature ramp rate	0.1°C ~ 40°C/min, increment 0.1°C
Constant Temperature Retention time	0 ~ 655 min, increment 1 min

Hydrogen Flame Ionization Detector (FID)	
Sensitivity	$M \leq 1 \times 10^{-11} \text{ g/s } (C_{10})$
Best testing results	$M \leq 8 \times 10^{-12} \text{ g/s } (C_{10})$
Noise	$\leq 5 \times 10^{-14} \text{ A}$
Drift	$\leq 6 \times 10^{-13} \text{ A/h}$
Linear dynamic range	$\geq 10^6$

Thermal Conductivity Detector (TCD)	
Sensitivity	$\geq 2500 \text{ mV} \cdot \text{mL/mg } (C_{10})$
Noise	$\leq 20 \mu \text{ V}$
Drift	$\leq 30 \mu \text{ V/h}$
Best testing results	$\geq 5000 \text{ mV} \cdot \text{mL/mg}$ (Electronic amplification)
Linear dynamic range	$\geq 10^4$

Electron Capture Detector (ECD)	
Detection limit	$\leq 2 \times 10^{-13} \text{ g/s } (r-666)$
Linear dynamic range	$\geq 10^3$
Maximum operating temperature	350°C

# Skyray Instruments



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