

EWAI Products

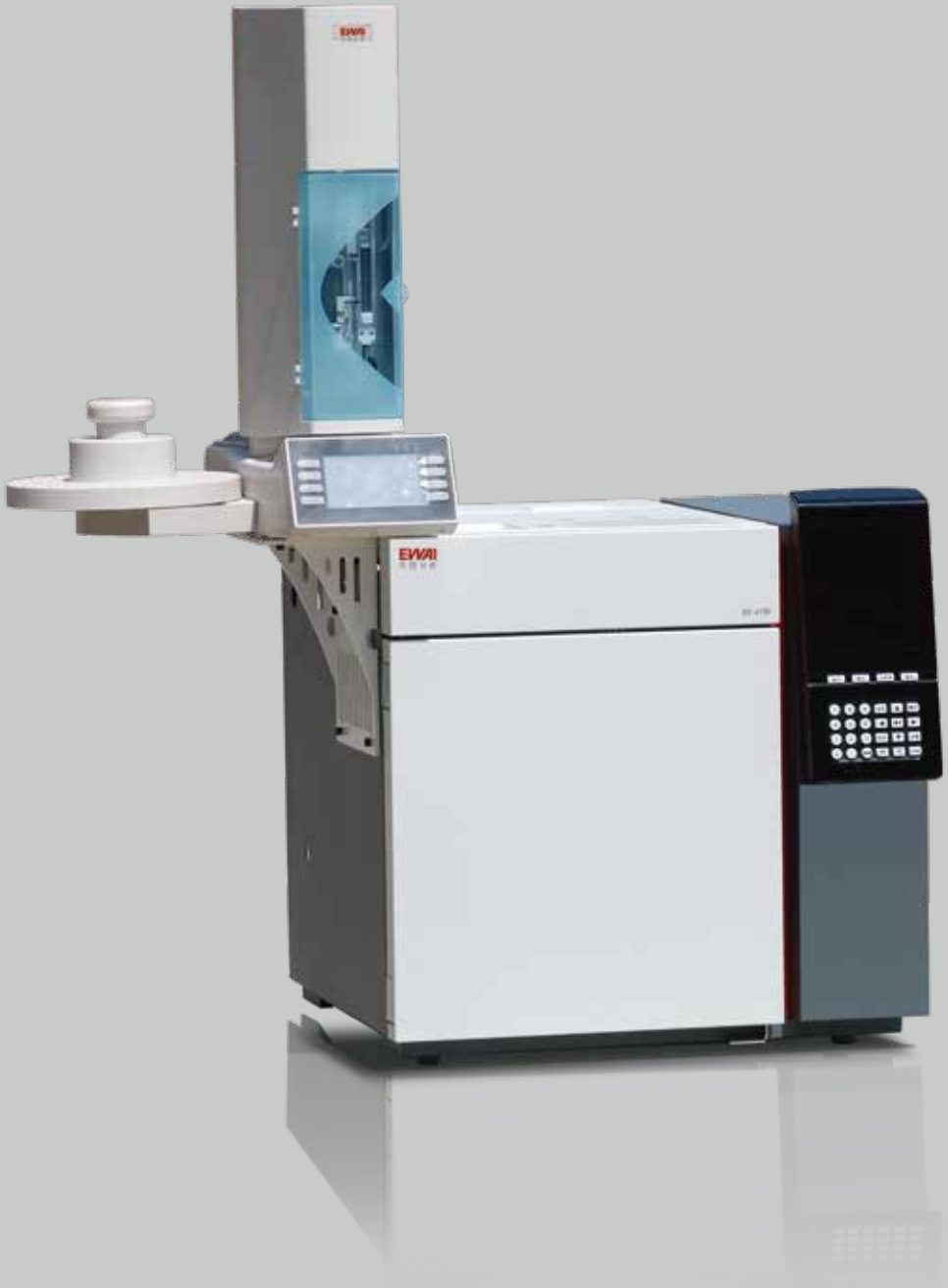
ICP-TOF-MS 3800 Inductively Coupled Plasma Time-of-Flight Mass Spectrometer
Ebio Reader 3700/Ebio Reader 3700 Plus Time of Flight Mass Spectrometer
PRO-MS 3600 Process Mass Spectrometer
PTR-QMS 3500 Proton transfer reaction mass spectrometry
GC-MS 3200/3250 Gas Chromatograph-Mass Spectrometer (Quadrupole)
GCxGC TOF MS 3300 Comprehensive Two-dimensional Gas Chromatograph – Time of Flight – Mass Spectrometer
GC-4000A/4100/4200 Series Gas Chromatograph
EW-4400 Portable PID Gas Analyzer
LC-5520 High Performance Liquid Chromatograph
IC-2800 Ion Chromatograph
ICP-7700/7760HP/7762 ICP Spectrometer
AA-7003/7020/7050/7050D/7090/7095 Atomic Absorption Spectrometer
UV-6010/UV-6020 UV-visible spectrophotometer
AF-7500/7500B/7550 Atomic Fluorescence Spectrometer
LC-AF 7590 liquid chromatography-atomic fluorescence spectrometer
XD-8010 Energy Dispersive X-Ray Fluorescence Spectrometer
CA-9000 Mobile Inspection Lab
Bundle monitoring system and coal mine specialized analytical instruments
LIMS Laboratory Information Management System

EAST & WEST ANALYTICAL INSTRUMENTS , INC.

No. 3 Shangyuan Street , Shilong Industrial Park,
Mentougou District, Beijing, PR China, Zip code:102308
Website: www.ewai-group.com
Email:
Sales Consultation: i.sales@ewai-group.com
Customer Service: support@ewai-group.com
International Sales Manager: wangjing@cn.ewai-group.com
International Sales Director: zhangjie@cn.ewai-group.com



27/01/2026



GC-4100

Gas Chromatograph
EAST & WEST ANALYTICAL INSTRUMENTS, INC.

Simply Precise

EWAI stands out through its commitment to excellence and diverse product portfolio. Our modern international management ensures continuous improvement in product performance and quality, while delivering customized solutions.

Our journey began in China, where we have maintained strong dedication to advancing scientific instrumentation. The 2007 launch of our independently developed GC-MS 3100 marked a milestone in China's analytical instrumentation industry.

EWAI has grown from a single product to hundreds of models across chromatography, spectroscopy,

mass spectrometry, and rapid detection systems. With global distribution reaching dozens of countries, we have become a recognized player in the analytical instrument market.

Our strategic vision led to the 2013 acquisition of GBC Scientific Equipment, establishing production bases in China, Australia, and Malaysia. The "EWAI" brand is increasingly influential internationally.

We remain dedicated to our core values of quality and innovation, working collaboratively with customers to achieve shared success.

- ISO9001 Quality Management System Certificate
- 21315 Quality Credit AAA Grade Certificate
- Top Ten Chromatography Instrument Awards from BCEIA
- Gold Award from BCEIA
- The Designated Enterprises for Coal Mine Safety Equipment
- The Most Popular Manufacturer Award in the instruments and equipment industry

- ISO14001 Environmental Management System Certificate
- CE Certificate
- Top Ten Spectroscopy Instrument Awards from BCEIA
- Innovation Award
- Beijing Science and Technology Award
- Scientific Instruments Product Excellence Award



High Tech Enterprise Certificate



ISO9001



ISO14001



21315 Quality Credit AAA Grade Certificate



Innovative Design Red Star Award



National Important New Product

GC-4100 Gas Chromatograph

The GC-4100 is the latest generation of gas chromatographs developed by East & West Analytical Instruments, Inc. Many features and specifications have been significantly improved from the GC-4000A. The GC-4100 can be fully controlled by software. It uses EPCs (electronic pressure controllers) to control six gas

routes, including carrier gas, combustion gas, auxiliary combustion gas, split and makeup gas among others. The number of gas routes can be extended if needed. The temperatures of detectors and the column oven are controlled using a PID-based intelligent control system, a brand new GC temperature control system.



Features

High Automation and High Efficiency

- GC functions, such as temperature control, ignition, baseline adjustment, sensitivity adjustment, polarity selection, bridge temperature control among others, are automatically controlled by computer. Gas flow and pressure are precisely controlled by EPC. The operation of the GC-4100 is simple and user-friendly. Due to a large decrease in analysis time, analysis becomes faster and more efficient.
- The GC has numerous self diagnosis and alarm functions. The instrument diagnoses issues at startup and also during analysis. There are alarms for absence of gas supply and over heating. The GC-4100 has self protection and easy trouble shooting.
- With options such as six-way valve sampling, automatic back flushing, precutting equipment, septum purge among others, the GC satisfies various analysis needs.

- A 10-segment programmable temperature control along with automated control of the column oven back door allows for fast and fully automated analysis under any temperature conditions, thereby increasing productivity and efficiency.

Easy Operation

- A friendly user interface allows for simple and convenient operation.
- A large-screen LCD displays temperature and operating conditions in real time on a convenient and intuitive control panel.
- Analysis conditions can be set not only by the onboard control panel, but also by the flexible workstation software.
- Online help system provides users with ease of operation and troubleshooting features.

High Precision

- Peak area and retention time have excellent repeatability.
- The sensitivity of the detectors have been increased substantially from the previous generation. The noise is very low, while the baseline drift is small.
- The instrument can control up to eight individual temperature control points (such as column oven, injection chamber, TCD, FID, etc.). The column oven temperature is precisely controlled to provide a constant temperature environment for efficient separation of sample components.

Flexibility and Extensibility

- Three detectors, three injection ports and three columns can be installed simultaneously in many configurations.
- Three gas routes along with three signal outputs can be installed together.
- The column oven has a large capacity and can hold up to three glass packed column, stainless steel packed column

Excellent Repeatability

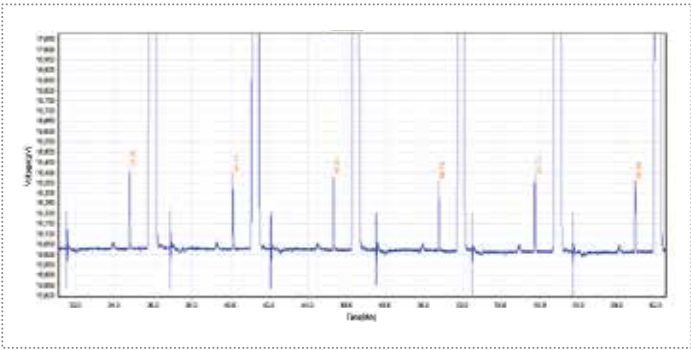
- Using a capillary column with an ECD detector and split injection, the RSD is not more than 2.60% (n=6, γ -666) for 6 continuous injections.

or capillary column at the same time.

- The sampling method is flexible; methods include capillary split/splitless sampling, packed column sampling, cold column head sampling among others.
- Other options include an auto sampler and six-way valve injection system.
- The GC system includes automatic back flushing, automatic switching of carrier gases, septum purge and completely automated full analysis in one injection.
- GC can be equipped with accessories such as methane converters, pyrolyzers, thermal desorption equipment, purge and trap analyzers, among others.
- A unique trap pipe design at the split outlet protects the EPC and maintains a clean environment in the lab.
- The channel connected to the Mass Spectrometer can be reserved on the GC according to the user's requirement.
- GC can provide a optimal analysis solution to meet the requirements of a wide range of application fields.

Improvement of the TCD

- The dead volume has been reduced. The stability time has been shortened. Can now be used with capillary columns.
- Components are now antioxidant. The filament is heated by a constant average temperature bridge power supply, which increases detector sensitivity while improving lifetime.
- Using the TCD detector with a capillary column in split injection mode to analyze benzene in toluene results in a RSD of less than 2.50% for 6 continuous injections, as well as peaks with a small FWHM.



Improvement of the ECD

- The volume of the micro ECD cell has been reduced, resulting in a stable baseline. Capillary columns can now be used with the ECD.
- Sensitivity has been increased significantly. The detection limit now reaches 2x10⁻¹⁴g/mL (γ -666).



Newly Designed Micro ECD

Wide Range of Accessories

GC-4100 inherits the strong expandability of the GC-4000A. It can be equipped with additional accessories such as auto samplers, capillary split/splitless injectors, methane converters, thermal desorption equipment, purge and trap analyzer, etc.

Workstation Software

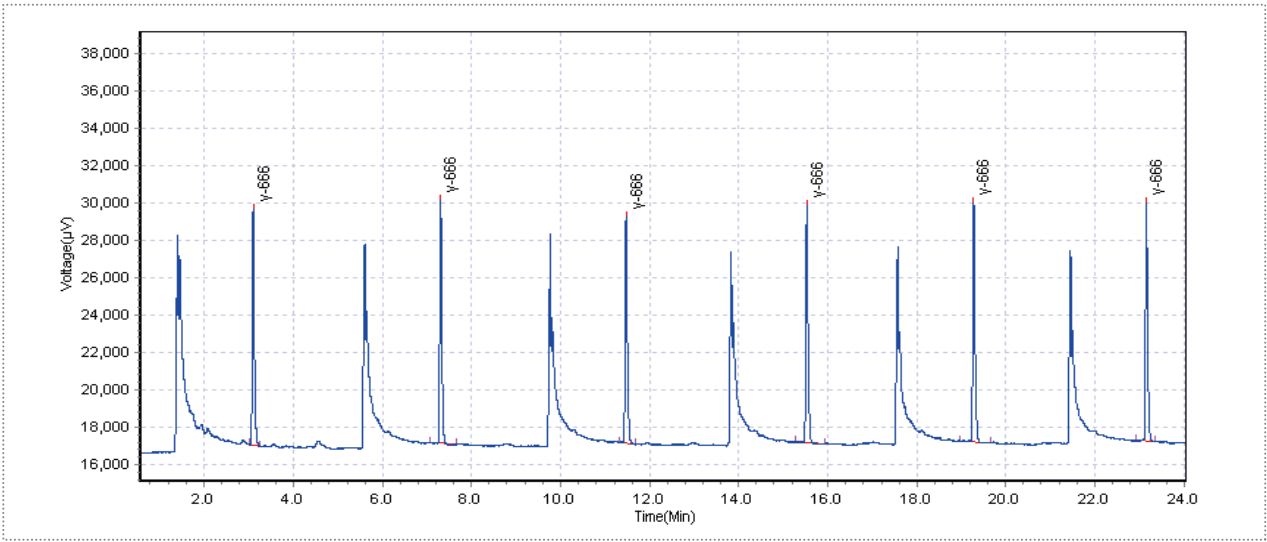
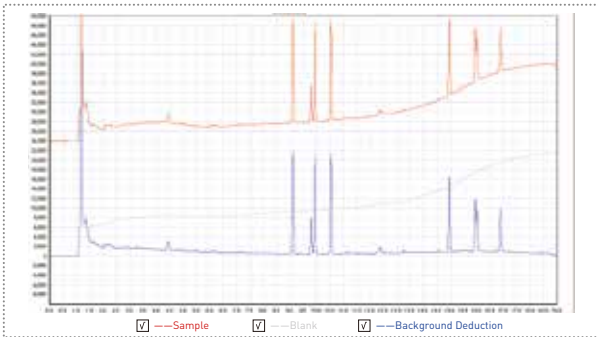
The workstation interface is simple yet powerful. Features include multi-channel independent sampling, and the ability to process up to 30 chromatogram files simultaneously. Parameters of collected chromatograms can be customized. Chromatogram processing tools are diverse and comprehensive. The data processing functions are intuitive, convenient and easy to use. Features include baseline background reduction, complete control and operation of the instrument and customizable analysis report templates. The workstation can also be connected with various auto samplers.

Workstation Specifications

Sampling Precision	0.1 μV/s	Range	-1.000 - 1.000 V
Number of Detectable Peaks	2000	Maximum Chromatogram Storage	20 h
Analysis Precision (Linearity)	0.2%	Maximum Sampling Rate	100 samples per second
The workstation can control and operate the instrument, set and change the analysis parameters and set the chromatogram background reduction.			

Baseline Background Reduction Feature

The following chromatogram is the temperature program controlled analysis of an organic chlorine pesticide that demonstrates the baseline background reduction feature.



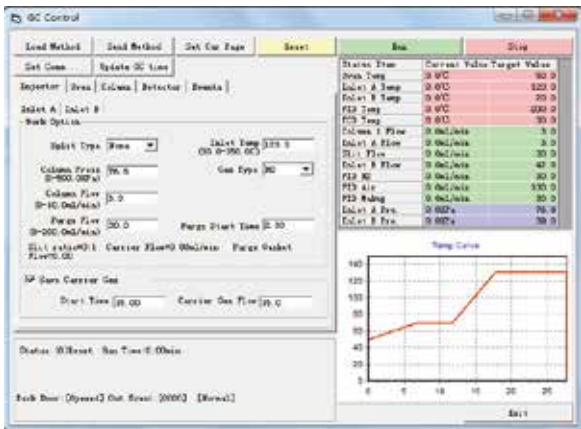
Improved Features

Improvement of Gas Control

- Up to six gas routes can be controlled by EPC. More gas routes can be extended to be EPC controlled according to user requirement.

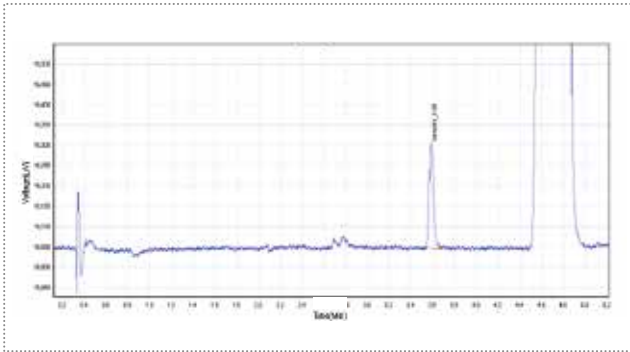
EPC Specifications			
Pressure Range	0.05 - 0.3 MPa	Flow Repeatability	±0.5% F-s
Withstand Pressure	0.45 MPa	Flow Accuracy	±1% F-s
Pressure Repeatability	±0.15% F-s	Flow Linearity	±1% F-s
Pressure Accuracy	±1% F-s	Response Time	1 - 4 Sec
Pressure Linearity	±1% F-s		

Workstation Control Interface

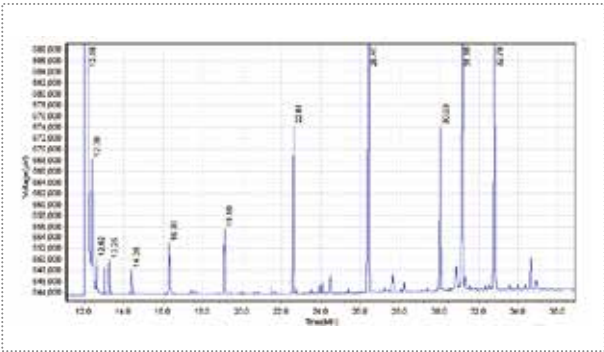


Applications

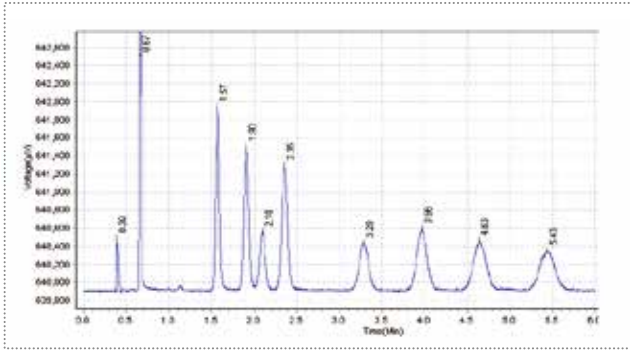
- Analysis of benzene in toluene with a capillary column using a TCD.



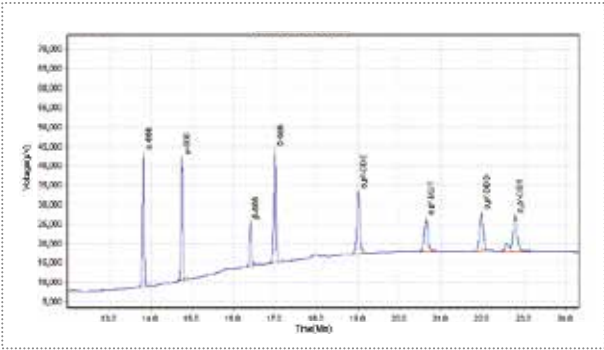
- Analysis of fatty acids in milk with a temperature program controlled capillary column using a FID.



- Analysis of an organic phosphorus pesticide with a capillary column using a FPD.



- Analysis of an organic chloride pesticide with a temperature program controlled capillary column using an ECD.



Technical Specifications

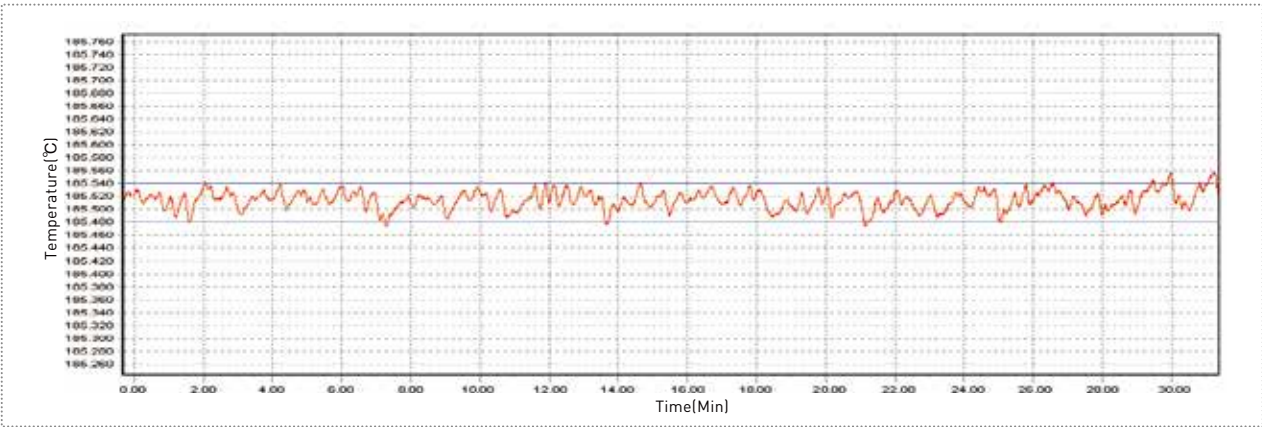
Detectors

	TCD	FID	ECD	FPD
Sensitivity	$S \geq 10000 \text{ mV}\cdot\text{mL}/\text{mg}$ (benzene)			
Detection Limit		$Dt \leq 8.0 \times 10^{-12} \text{ g/s}$ (n-hexadecane)	$Dt \leq 2.0 \times 10^{-14} \text{ g/mL}$ (γ -666)	$Dt(P) \leq 2.0 \times 10^{-12} \text{ g/s}$ $Dt(S) \leq 5.0 \times 10^{-11} \text{ g/s}$ (methyl parathion)
Noise	$\leq 0.050 \text{ mV}$	$\leq 5.0 \times 10^{-14} \text{ A}$	$\leq 5.0 \times 10^{-12} \text{ A}$	$\leq 1.0 \times 10^{-12} \text{ A}$
Drift	$\leq 0.100 \text{ mV}/30\text{min}$	$\leq 3.0 \times 10^{-13} \text{ A}/30\text{min}$	$\leq 1.0 \times 10^{-11} \text{ A}/30\text{min}$	$\leq 3.0 \times 10^{-12} \text{ A}/30\text{min}$
Range of Linearity		10^7	10^4	10^4

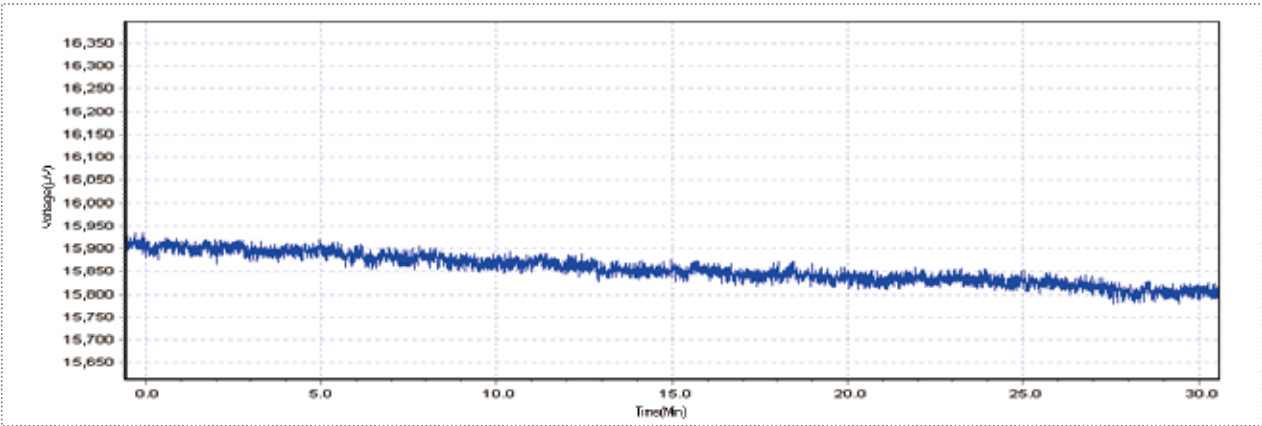
Column Oven

Dimensions	280 mm × 300 mm × 280 mm
Temperature Control Range	room temperature +10 °C to 400 °C
Overheating Protection	Any temperature less than 400 °C can be set.
Temperature Control Precision	±0.030 °C
Temperature Program	Maximum of 10 steps
Temperature Rise Rate	0 - 40.0 °C/min (0.100 °C/min increments)

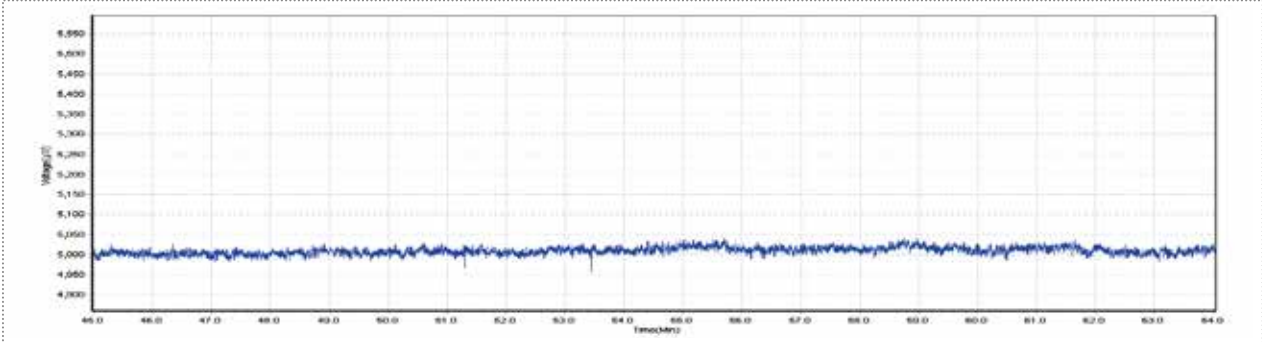
- The temperature of the column oven is precisely controlled. The range of temperature fluctuation is within ±0.030 °C.



- Stable temperature control ensures a good baseline.



Baseline noise using a HP-5 capillary column with ECD. Temperature of column oven is 190 °C.



Baseline noise using a OV-101 packed column with ECD. Temperature of column oven is 190 °C.