



200 Series GC

The 200 Series GC

The 200 Series GC stands out for its compact and lightweight design, delivering the full functionality of larger instruments within a remarkably small footprint. Its versatility makes it an excellent choice for environments where space is a valuable commodity, such as in educational settings, quality control laboratories, and remote field applications. This single-channel instrument is equipped with a temperature programmable oven capable of accommodating standard capillary columns, electronic gas control, a split/splitless injector, and a selection of detector options, providing a comprehensive solution for various analytical needs.

Evolution

As part of our development as an instrumentation company, we identified education as a key target market for gas chromatography. Through valuable feedback from universities and educational institutions, we discovered a prevalent issue: existing chromatography teaching equipment was often out-dated, second-hand, and too cumbersome to keep within laboratory spaces. Moreover, budget constraints made investing in new equipment challenging.

Responding to this need, we designed a system tailored to the education sector. The 200 Series addresses these challenges by being small, compact for easy storage, user-friendly, robust, and competitively priced—all without compromising analytical performance. Since its initial launch, the instrument has continuously evolved, upholding the high performance associated with the Ellutia brand.



Technical Specifications

Compact

Footprint
16cm (H) x 41cm (W) x 34cm (D)

Light

Weight: 7.5kg

Easy to Use

Originally designed for use in education so an ideal introductory model

Control

Built in keypad incorporating 2 x 16 character LCD display
PC control via Ellution Chromatography Data station
Run line control allows the use of most recorders, integrators and PC integration packages

Power

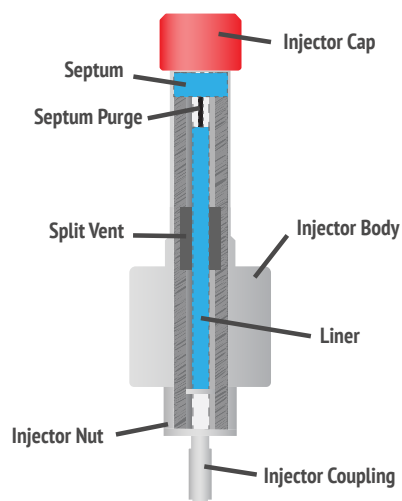
800VA, 230V/50/60Hz, 115V/50/60Hz

Colour

Available in grey or Ellutia green

Injectors

- Split/splitless injector supplied as standard with all instruments
- Split linearity better than 3% up to 200:1
- Injector temperature range 60 - 280°C
- Optional capillary on-column adaptor
- Optional gas sampling valve



Gas Controls

- Electronic pressure control of carrier gas of 0.3 to 50psi, fully programmable with up to five ramps. Maximum total flow 250ml/min
- Detector gas control fixed splitter (apply the specified pressure to the instrument for correct gas flow rates)
- Optional two channel gas box to allow variability of detector gases

Columns / Oven

- Accommodates all capillary columns up to 7 inch cage, maximum length is 120m (5 inch cage required above 60 metres)
- Optional packed column capability
- Temperature range from 15°C above ambient to 300°C
- 5 ramp temperature programming
- Ramp rates up to 40°C/min below 200°C above 200°C
- Maximum isothermal temperature 240°C



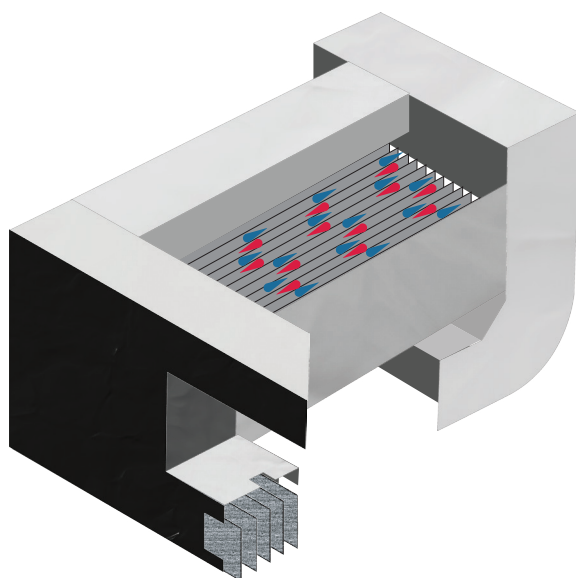
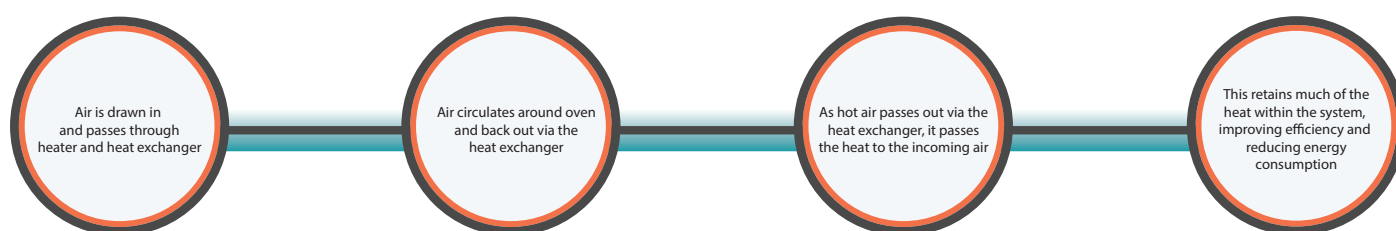
Heat Exchanger Technology

In contrast to the traditional approach of using a fan to circulate hot air generated by a heater, our instrument employs a compact and award-winning flow-through heat exchange system to circulate air through the oven, resulting in significantly reduced energy consumption.

Here's how it works: Air is drawn in, passing through a heat exchanger and heater that warms it. This warmed air circulates in the oven and then exits via the heat exchanger. As the hot air exits, it passes its heat to the incoming air, retaining much of the energy within the instrument. This innovative design not only enhances efficiency but also contributes to substantial energy savings.

By transferring energy from outgoing air to incoming air, the Heat Exchanger system effectively retains heat within the GC. This maximization of efficiencies leads to a significant reduction in operational costs, as there is less reliance on powerful heaters.

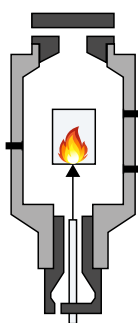
Upon completion of development and successful deployment of the instrument, we discovered the extensive potential of the 200 Series across various sectors of the industry.



Detector Options

The 200 Series GC, being a single-channel instrument, comes equipped with one detector to meet your analytical needs. Depending on the specific compound(s) you aim to analyze, the instrument offers versatility by allowing you to choose from a variety of detectors. The following detector options can be seamlessly integrated or attached to the 200 Series GC.t

Flame Ionisation Detector (FID)

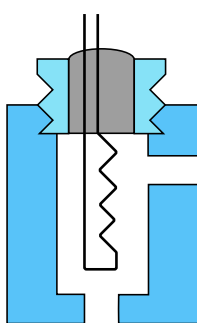


Temperature Range:
100-320°C

Linear Range:
 10^5

Minimum Detectable Quantity:
 5×10^{-12} grams of carbon (at 3x signal to noise)

Thermal Conductivity Detector (TCD)

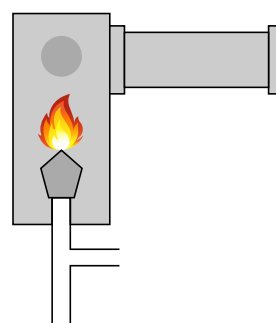


Temperature Range:
100-300°C

Linear Range:
 10^4

Minimum Detectable Quantity:
Typically 2×10^{-14} gml⁻¹ for nonane

Flame Photometric Detector (FPD)

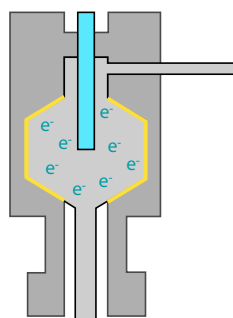


Temperature Range:
100-320°C

Phosphorous Mode Range:
accuracy of 5×10^{-13} g of phosphorous per second

Sulphur Mode Range:
near square law response for sulphure with accuracy of

Electron Capture Detector (ECD)



Temperature Range:
100-320°C

Linear Range:
 10^3

Minimum Detectable Quantity:
 5×10^{-13} grams of lindane (at 3x signal to noise)

Thermal Energy Analyser (TEA)



Operating Modes:
Nitro, Nitroso, Nitrogen

Sensitivity:
2pg N/sec Signal to Noise 3:1

Linearity:
 10^4

Software - Ellution

Developed in collaboration with DataApex, the Ellution Chromatography Data Station stands out as a sophisticated chromatography software package, featuring optional modules for data acquisition, processing, and instrument control. This versatile software boasts a wide range of data acquisition interfaces, facilitating seamless connections to any GC or LC chromatograph.

Key Benefits of Ellution:

Efficient Data Collection and Processing:

- Streamlines the collection and processing of data from Ellutia's instruments.
- Simplifies the entire process for quick and efficient results.

Intuitive Reporting:

- The clear structure and intuitive graphical user interface make it easy to generate accurate reports.

Complete Instrument Control:

- Comes standard with full control capabilities for Ellutia Gas Chromatographs.

Modular Flexibility:

- Optional extensions allow for the implementation of specific methodologies, providing flexibility tailored to your needs.

Ellutia also offers Ellution hardware for a variety of requirements, including A/D converters for data acquisition, control boards for LC control and precise analogue signal generator devices. This hardware can be synchronised with Ellutia's autosampler or Chromatograph, or can be supplied as standalone hardware.



Autosamplers

Ellutia's Autosampler range, inclusive of Liquid, Headspace, and SPME sample introduction, is notably compact, requiring minimal bench space. Recognized for its reliability, this range is straightforward and easy to use.

The Liquid Autosampler range includes the EL3000A, EL3100A and EL3200A. The Headspace Autosampler range features the EL2000H and EL2100H and the EL2800T is the all in one Autosampler.

EL2800T
All in One
Headspace, SPME, Liquid



EL2000H
Headspace Sampler
42 Sample Capacity



EL2100H
Headspace Sampler
14 Sample Capacity



EL3000A
Liquid Autosampler
121 Sample Capacity



EL3100A
Liquid Autosampler
15 Sample Capacity



EL3200A
Liquid Autosampler
209 Sample Capacity





To learn more about the 200 Series GC, please scan the QR code below
or visit www.ellutia.com/200-series-gas-chromatograph



Colston House, 200 Lancaster Way Business Park, Ely, Cambridgeshire, CB6 3NX, UK

Tel: +44 (0)1353 669916 Web: www.ellutia.com

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Registered Address Colston House, 200 Lancaster Way Business Park, Ely, Cambridgeshire, England, CB6 3NX



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