

ANALYTE GC-2700 GAS CHROMATOGRAPH

Technical Specifications

Analyte GC-2700 Basic Oven

- Multiple-level temperature program with six ramps settable from 0.1°C to 50°C / minute (optional up to 120° degree C/ minute)
- Minimum oven temperature: Ambient $\pm 4^{\circ}\text{C}$
- Cryogenic system optionally available for temperature between -100°C and ambient.
- Maximum oven temperature 450°C
- Rapid cool down from 450°C to 50°C in less than 7 min.
- Four independent heated zones (up to 450°C) for individual control of injectors and detectors plus auxiliary zones.
- Six programs memorisable through keyboard.
- Keyboard with fluorescent display (4x20 characters, 32 keys)
- Modern electronic architecture based on Motorola@ micro controls
- External communication with one RS 232, 4 external events control, 2 logic inputs and 2 logic outputs.
- Column oven size: 29 x 28 x 17 cm (13.8 litres) allows for simple side by side installation of columns.
- Consumption : 2700 VA max.
- Overall dimensions : 45 x 51.5 x 48 cm
- Weight : 30 kg.

Optional

- Cryogenic option for sub-ambient temperature operation: as low as -40°C with carbon dioxide and -100°C with nitrogen.

Programmable optional heated zone.

Additional board for 2 extra heated zones.

Pneumatic unit

- One or two modules with four Electronic Pressure Regulations each allowing complete electronic pressure regulation for carrier gas, split adjustment, combustion gases (air and hydrogen for flame detectors)
- Specification of each module.
- Numeric PID regulation with 4 independent pressure regulations.
- Choice of 2 pressure ranges: 0-400, or 0-100 kPa
- Adjustment in increments of 1kPa
- Direct flow adjustment on the split line.
- Gas saver capabilities.

Injectors

Selection of one or two injectors among:

- Packed and wide bore capillary column injector
- Split-splicess injector with constant or programmable pressure
- On-column injector
- PTV injector with programmed control of temperature and pressure and large volume capabilities.
- Gas or liquid sampling valve
- The manufacturer reserves the right to change any specification without notice.

Detectors

Choice of one or two detectors among 5 different detector

- FID flame ionisation detector
Vertical assembly. Gas tight system.
Operating temperature from ambient to 450°C
Polarisation: 250V negative or positive
Sensitivity range selectable from 10⁻⁹ to 10⁻¹² A/mV
Detectability: 10⁻¹² g/s
Dynamic linearity better than 10⁸
Make-up gas not required due to zero dead volume design
- TCD Thermal conductivity detector
Cell volume 600ml or 140ml
Four WX filaments (options: W2X, AuW, Ni, Pt-Ir)
Operating temperature up to 360°C
Detectability: 10⁻¹⁰ g/ml of nC 10
- FRD Flame photometric detector
Double flame technique for selective detection of sulfur and phosphorous compounds
High voltage unit for photomultiplier and supply for the ignitor
Sensitivity range selectable from 10⁻⁹ to 10⁻¹² A/mV
Dynamic range 10⁷ phosphorous
Logarithmic program for sulfur calibration.
- ECD Electron Capture Detector
Nickel 63 source mounted in a sealed cylindrical chamber
Central electrode
Linearised by frequency modulated supply
Dynamic linearity : 5.10⁴
Detectability: better than 4.10⁻¹⁵g/s of Lindane
- NPD Nitrogen Phosphorous Detector
Head adaptable on FID body
Alkaline ceramic source with temperature regulation
Operating temperature: 600-700°C
Linearity better than 10⁶ for Nitrogen
Detectability: 10⁻¹³g/s nitrogen, 5.10⁻¹⁴g/s phosphorous
- NPD Nitrogen Phosphorous Detector
head adaptable on FID body
Alkaline ceramic source with temperature regulation
Operating temperature: 600-700°C
Linearity better than 10⁶ for Nitrogen
Detectability: 10⁻¹³g/s Nitrogen, 5.10⁻¹⁴g/s phosphorous

Peripherals

- ALS Automatic Liquid Sampler
105 position interchangeable tray with 2 ml vials
Simple syringe set-up.
Injection volume from 0.1ml to 10ml in 0.1ml steps
Stepper motors for precise settings.
Free access to the injector for manual operation
Two 10ml vials for wash and waste
XYZ technology allowing injection in 2 different injectors
Stores up to 9 operating methods.
- HSS Headspace Autosampler
Calibrated sample loop directly connected to a needle
Incubation oven with shaking capabilities
Constant incubation times with optimised procedure
32 position interchangeable tray
Free access to the injector for manual operation
Stepper motors for precise settings
Stored up to 9 operating methods