

430-GC Specification Sheet



▶ Dimensions and Weights

Size: 55 cm (h) x 32 cm (w) x 56 cm (d).
Weight: 26.8 kg.

▶ Environmental Conditions

Operating temperatures: 10 °C to 35 °C.
Operating humidity (relative): 5 % to 95 %.
Line voltage requirements: 120 V, 230 V (± 10 % nominal).

▶ Column Oven

Dimensions: 23 cm (w) x 11 cm (d) x 28 cm (h).
Temperature range: ambient -55 °C to 450 °C*.
Temperature program ramps/holds: 7/8.
Maximum temperature ramp rate: 100 °C/min for all voltages.
Cool down rate: 450 °C to 50 °C in 5.2 minutes.
Temperature set-point resolution: 1 °C.

▶ Injector Options

Maximum injectors: one, gas sampling valve (optional).
Pneumatics: Electronic Flow Control (EFC).
Columns: Capillary columns, packed column (optional).
Injector types:

- 1177 Split/Splitless injector (S/SL).
- 1061 Flash injector.
- 1041 Packed/Wide bore On-Column injector (PWOC).

▶ 1177 Split/Splitless (S/SL) Injector

Pressure range: 0-100 psi.
Total flow: 500 mL/min at 10 psi.
Maximum temperature: 450 °C.
Split range: 1-10,000 (column dependent).
Suited for columns:

- Wide bore (0.53 mm).
- Narrow bore (0.05 to 0.32 mm).

▶ 1061 Flash Injector

Pressure range: 0-100 psi.
Total flow:

- 50 mL/min (Type 3 EFC).
- 500 mL/min (Type 4 EFC).

Maximum temperature: 450 °C.
Suited for columns:

- Wide bore (0.53 mm).
- Packed (1/8 " to 1/4 ").

▶ 1041 Packed/Wide-Bore On-Column (PWOC) Injector

Pressure range: 0-100 psi.
Total flow:

- 50 mL/min (Type 3 EFC).
- 500 mL/min (Type 4 EFC).

Maximum temperature: 450 °C.
Suited for columns:

- Wide bore (0.53 mm).
- Packed (1/8 " to 1/4 ").

▶ Detector Options

Maximum detectors: one.
Pneumatics: Electronic Flow Control (DEFC).
Columns: Capillary columns, packed column (optional).
Detectors types:

- Flame Ionization Detector (FID).
- Thermal Conductivity Detector (TCD).
- Pulsed Discharge Helium Ionization (PDHID).
- Mass Spectrometer (MS) (see GC/MS brochure and datasheet).

▶ Flame Ionization Detector (FID)

Maximum temperature: 450 °C.
Detectivity: 2 pg C/sec.
Linear dynamic range: 10⁷.
Flame tip type: ceramic (patented).
Operational quality:

- Flame-out detection.
- Auto re-ignition.

▶ Thermal Conductivity Detector (TCD)

Maximum temperature: 450 °C.
Detectivity: 300 pg/mL (Butane).
Linear dynamic range: 10⁶.
Operational quality:

- Filament protection.
- Automatic bridge balancing.



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▶ Pulsed Discharge Helium Ionization Detector (PDHID)

Detectivity: 50 ppb (Methane).
Linear dynamic range: 10^4 (Methane).
Operational quality:

- Gold plated connections.
- Welded column connection.

▶ Electronic Flow Control: Detectors (DEFC)

Module types: 2 detector-specific modules.
Accuracy: $\pm 7\%$ set point flow.
Resolution: 0.1 or 1 mL/min.

▶ Communication

Ethernet: Protocol: TCP/IP.
Data rate: 10 Mbps.
Control: GC control and method parameters.
Analog output (optional): Output: • 0-1 V (default).
• 0-10 V.

Synchronization signals with other devices and data systems:

- Ready in.
- Start out.

Data Handling and System control:

- GC: Galaxie™ Chromatography Data System (CDS).
- GC/MS: MS workstation (see the GC/MS brochure and datasheet for more information).

▶ General Specifications

GC control: external events (digital output) 2 standard.
Max number of timed events: 24.
Heated zones: 3 (including column oven).
Local display and control display: VFD display: 2 lines, 20 characters per line.
Maximum stored methods: 5 (battery protected).
System operational qualities:

- High inertness: sample path UltiMetal™ treatment (optional).
- Low level detection assurance: purged valves (optional).

▶ Electronic Flow Control: Injectors (EFC)

Module types: 3 injector-specific modules.
Accuracy: ± 0.1 psi, 5 % full scale flow.
Resolution: 0.1 psi or 0.1 mL/min.

▶ Certifications

- CSA: C22.2 61010-1
UL 61010-1
- IEC: 61010-1
- EMC: 47 CFR part 15
ANSI C63.4
EN 61326

All analytical specifications are applicable under optimal conditions.

▶ Automation Options 8410 Auto Injector

Sample capacity: 10 x 2 mL, 6 x 5 mL, and 5 x 10 mL vials.
Large solvent wash vial: 2 x 120 mL (optional).
Dual and duplicate mode.
Internal standard addition.
Modes of operation: liquid, ambient headspace (optional).
Pre-programmed modes of injection.

▶ 8400 AutoSampler

Sample capacity: 100 x 2 mL vials.
Large solvent wash vial: 2 x 120 mL (optional).
Dual and duplicate mode.
Internal standard addition.
Modes of operation: liquid, ambient headspace (optional).
Sample heating and cooling (optional).
Pre-programmed modes of injection.

▶ CombiPAL™ AutoSampler

Sample trays: two standard and expandable to four.
Tray types:

- 98 x 2 mL vials, 200 x 1 mL vials.
- 32 x 10 mL/20 mL vials and 96-well plates.

Dual and duplicate mode.
Internal standard addition.
Modes of operation: liquid, heated headspace, optional, and SPME (optional).
Sample heating and cooling.
Optional modules: additional sample trays, micro-well plate holders, wash station, SPME fiber bake-out station, dilutor, barcode readers, and flowcell.

* With optional CO₂ cooling.

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