



Agilent 3000 Micro GC 1, 2, 3 and 4-Channel Systems Data Sheet



Dimensions/Weight

1, 2-Channel (G2801A, G2803A)

Maximum weight	8.2 kg	18.0 lb
Height	15 cm	5.9 in.
Width	25 cm	9.8 in.
Depth	41 cm	16.1 in.

3, 4-Channel (G2802A, G2804A)

Maximum weight	12.2 kg	27.0 lb
Height	15.5 cm	6.1 in.
Width	47.2 cm	18.5 in.
Depth	42.0 cm	16.5 in.

Portable (G2805A)

Maximum weight	16.6 kg	36.5 lb
Height	15.5 cm	6.1 in.
Width	36.4 cm	14.3 in.
Depth	41.3 cm	16.3 in.

Environmental Conditions

- Operating temperature range: 0 to 50 °C
- Relative humidity: 5 to 95% noncondensing
- Altitude to 15,000 ft (4,572 m)
- Usage: indoor or enclosed

Sampling

- Compatible with mixtures that are in a gaseous phase at standard temperature and pressure (STP); typically for compounds with boiling points < 250 °C
- Compatible with highly pressurized (liquefied) gases, such as liquefied petroleum gas (LPG), with heated vaporizer accessory
- Maximum sample pressure < 207 kPa (30 psig); recommended sample pressure ambient –69 kPa (ambient –10 psig)

Sample Injectors

- Micro-electromechanical devices fabricated from silicon and other inert materials
- Injector types: fixed volume, heated; variable volume/timed, heated; variable volume/large loop, heated; or backflush to vent, heated
- Injection volume: 1 to 10 µL for variable volume/timed and 1 to 30 µL for variable volume/large loop, which depends on sample composition and gas compressibility; 1 µL for fixed volume injector and backflush injector

- Internal sample vacuum pump
- 1/16-in. 316 stainless steel bulk-head deactivated sample introduction port with 5-µm filter

Detector

- Micro-electromechanical device fabricated from silicon and other inert materials
- 240 nL internal volume
- Thermal conductivity detector (TCD) using Wheatstone Bridge design

Minimum Detection Level

Typically 10 ppm and can be as low as 0.8 ppm when using performance-enhanced configuration for certain applications. Does not include reactive compounds (for example, sulfur containing).

Linear Dynamic Range

$10^6 \pm 10\%$



Repeatability

Typically RSDs at constant temperature and pressure (for C₁ to C₆ components at % level):

Injector type	Area repeatability
Variable volume	≤ 1% RSD
Backflush, timed mode	≤ 1% RSD
Fixed volume	≤ 0.2% RSD
Backflush, fixed mode	≤ 0.5% RSD

Column Heater Range

Isothermal operation: ambient plus 15 to 180 °C

Carrier Gas

External Source

- Compatible with helium, hydrogen, nitrogen, and argon with 1/8-in. Swagelok fittings
- Input pressure: minimum = 552 ± 14 Kpa (80 ± 2 psig)

Portable

One rechargeable on-board gas cylinder:

- 300 mL up to 12,410 Kpa (1800 psi)
- Approximately 30 hours of usage
- Rechargeable with helium, nitrogen, and argon

Power

1, 2, 3, and 4-Channel Systems

- Power supply input: 100 to 240 VAC, 50 to 60 Hz, 2 Amps @ 100 VAC
- Power supply output: 24 VDC, 160 Watts

Portable

- Power supply input: 100 to 240 VAC, 50 to 60 Hz, 2 Amps @ 100 VAC
- Power supply output: 15 VDC, 160 Watts
- Automobile power supply: 12 VDC, > 13.5 VDC for battery recharging, power cable adapter
- Two rechargeable batteries and charger built in

External Input/Output

- LAN
- Power supply input connector
- Remote start

Sample Interface

Heated Vaporizer (Inlet)

- Sample stream pressure reduction, temperature control, and removal of entrained liquid and particles
 - Recommended for use with LPG type sample streams
 - Quick-connect fittings
 - 2-µm particle filter
- Operating conditions*
- Flow operating temperature: 100 ± 10 °C
 - Sample input pressure: 1379 to 5516 kPa (200 to 800 psig)
 - Delivery pressure to Micro GC: 52 ± 17 kPa (7.5 ± 2.5 psig)

Environmental conditions

- Operating temperature range: 0 to 50 °C
- Relative humidity: 5 to 95% (noncondensing)
- Altitude to 15,000 ft (4,572 m)
- Usage: indoor or enclosed

Physical specifications

- Power supply input: 115 to 230 VAC, 50 to 60 Hz, 1.2 to 0.6 Amps
- Power supply output: 15 VDC at 6.6 Amps, 100 Watts
- Height: 15.0 cm
- Width: 12.5 cm
- Depth: 9.0 cm
- Weight: 1.4 kg

Heated Regulator (Inlet)

- Sample stream pressure reduction, temperature control, and removal of entrained liquid and particles
- Handles sample gas streams with C₅+ components ≥ 0.5 mole %
- Quick-connect fittings
- 7-µm sintered stainless steel particle filter

Operating conditions

- Flow operating temperature: 60 to 120 °C
- Sample input pressure: 14 to 5516 kPa (2 to 800 psig)
- Delivery pressure to Micro GC: 0 to 52 ± 17 kPa (0 to 7.5 ± 2.5 psig)

Environmental conditions

- Operating temperature range: 0 to 50 °C
- Relative humidity: 5 to 95% (noncondensing)
- Altitude to 15,000 ft (4,572 m)
- Usage: indoor or enclosed

Physical specifications

- Power supply input:
115 to 230 VAC, 50 to 60 Hz,
1.2 to 0.6 Amps
- Power supply output: 15 VDC at
6.6 Amps, 100 Watts
- Height: 15.0 cm
- Width: 12.5 cm
- Depth: 9.0 cm
- Weight: 1.65 kg

Pressure Reducer

- High pressure manual flow
controller (30 to 240 cc/min air)
- Handles sample gas streams with
 C_5^+ < 0.5 mole %
- Sample input pressure < 6895 kPa
(1000 psig)
- Sample inlet connection: 1/8-in.
Swagelok fitting
- Overflow vent: 1/8-in. Swagelok
fitting
- Particulate filter: 10 μ m

Gas-Liquid Separator and Pressure Reducer

- Low pressure manual flow
controller
- 5- μ m particle filter and
moisture trap
- Sample input pressure < 3447 kPa
(500 psig)
- Sample inlet connection: 1/8-in.
Swagelok fitting

Safety and Regulatory

Conforms to the following safety standards:

- Canadian Standards Association (CSA): C22.2 No. 61010-1
- CSA/Nationally Recognized Test Laboratory (NRTL): UL61010-1
- International Electrotechnical Commission (IEC): 61010-1
- EuroNorm (EN): 61010-1

Conforms to the following regulations on Electromagnetic Compatibility (EMC) and Radio Frequency Interference (RFI):

- CISPR 11/EN 55011: Group 1 Class A
- IEC/EN 61326

Declaration of Conformity available

Control Software and Software Reporting

- Cerity NDS for 3000 Micro GC
- EZChrom Elite for 3000 Micro GC

Application Reports

- BTU Calorific Report – BTU/calorific calculation and reporting for natural gas analysis in accordance with GPA 2172-96, ASTM D 3588-98, and ISO 6976-1966 standards (Reference documents: GPA 2261-99, GPA 2145-00, ISO 10723, and ISO 6974)
- Refinery Gas Report – Four-channel integrated report with calorific calculation

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