



# 3000 Micro GC

## 1, 2, 3 and 4-Channel Systems

The INFICON 3000 Micro GC Gas Analyzer is a powerful GC solution that provides fast, accurate, reliable analysis of your gas sample on-line, right at the sampling point. It is ideal for the rapid analysis of gas streams in alternative energy, coal mine safety, and the hydrocarbon processing industry, which includes refineries, natural gas production and distribution, chemical operations, and oil and gas exploration.

### SAMPLING

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

### 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  $\mu\text{L}$  for variable volume/timed and 1 to 30  $\mu\text{L}$  for variable volume/large loop, which depends on sample composition and gas compressibility; 1  $\mu\text{L}$  for fixed volume injector and backflush injector
- Internal sample vacuum pump
- 0.0625 in. 316 stainless steel bulkhead deactivated sample introduction port with 5- $\mu\text{m}$  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,
- 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

$10^6 \pm 10\%$



## SPECIFICATIONS

### REPEATABILITY

Typically RSDs at constant temperature and pressure (for C<sub>1</sub> to C<sub>6</sub> 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
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### CARRIER GAS

#### External Source

Compatible with helium, hydrogen, nitrogen, and argon with 0.125 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

Power supply 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

**SPECIFICATIONS** (continued)**HEATED REGULATOR (INLET)**

Sample stream pressure reduction, temperature control, and removal of entrained liquid and particles

Handles sample gas streams with C<sub>5</sub> + components 2 0.5 mole %

Quick-connect fittings

7- $\mu$ m 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  $\pm$ 17 kPa (0 to 7.5  $\pm$ 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<sub>5</sub>+ <0.5 mole %

Sample input pressure < 6895 kPa (1000 psig)

Sample inlet connection 0.125 in. Swagelok fitting

Overflow vent 0.125 in. Swagelok fitting

Particulate filter 10  $\mu$ m

**GAS-LIQUID SEPARATOR AND PRESSURE REDUCER**

Low pressure manual flow controller

5- $\mu$ m particle filter and moisture trap

Sample input pressure <3447 kPa (500 psig)

Sample inlet connection 0.125 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 I1/EN 55011 Group 1 Class A  
IEC/EN 61326  
Declaration of Conformity available

**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

**SPECIFICATIONS** (continued)**CONTROL SOFTWARE AND SOFTWARE REPORTING**

EZ IQ 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

**DIMENSIONS/WEIGHT****1,2-Channel**

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

**3,4-Channel**

Maximum weight	27.0 lb. (12.2 kg)
Height	6.1 in. (15.5 cm)
Width	18.5 in. (47.2 cm)
Depth	16.5 in. (42 cm)

**Portable**

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



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Due to our continuing program of product improvements, specifications are subject to change without notice.

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