3000 Micro GC
Gas Analyzer
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. Its rugged construction ensures long-term, trouble-free operation. And with its modular design, reconfiguration and repair can be easily and quickly accomplished by interchanging Micro GC modules, keeping you in control of your gas analysis and your process.

**FAST ENOUGH TO MEET YOUR MOST DEMANDING REQUIREMENTS**

The INFICON 3000 Micro GC can simultaneously analyze samples on up to four independent Micro GC channels. Each channel (or module) is a self-contained GC comprised of a Micro Electron Mechanical Systems (MEMS) injector, MEMS detector, and high-resolution capillary column. Together with the high speed detection system, most analysis can be completed in seconds, not hours. This modular design delivers maximum application flexibility, allowing you to replace individual modules in minutes to adapt quickly to different application needs.

**COMPACT ENOUGH TO BE PART OF YOUR MOBILE GC LABORATORY**

Unlike traditional GC systems, the INFICON 3000 Micro GC easily integrates into your mobile GC laboratory, and can be set-up inside most minivans and trucks. A portable model is also available, which includes a rechargeable battery and carrier gas cylinder that you can carry right to your remote sampling site—so it is ideal for field work, test stations, pilot plants, process lines, or anywhere you need on-the-spot answers.

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**FEATURES AT A GLANCE**

- Modular design delivers maximum application flexibility and minimizes method development leadtime.

- The universal thermal conductivity detector, 10 times more sensitive than traditional TCDs, allows you to detect common gas components in the low ppm range.

- Digital pneumatics automatically manage system gas pressure, simplifying operation, mitigating differences in operator skill, and improving reliability from run to run—and instrument to instrument.

- Choice of three injectors:
  - Variable volume: allows greater analysis flexibility, even with low ppm samples.
  - Fixed volume: helps you achieve maximum repeatability.
  - Backflush: removes unwanted contaminants from your analysis.

- Sample conditioners extend sample handling capability by ensuring gas-phase sample introduction into the 3000 Micro GC. For instance sample stream with high pressure or containing C5+ components can be easily analyzed by the 3000 Micro GC after the appropriate pre-conditioning stage.

- Built-in LAN connectivity allows remote access to the instrument and its data, so you can conduct your analysis wherever LAN connectivity allows.

The INFICON 3000 Micro GC is equipped with a highly sensitive universal detector, based on Micro Electro-Mechanical System (MEMS) technology—making it 10 times more sensitive than conventional Thermal Conductivity Detectors, capable of measuring down into the low ppm range.
MEASURE UP TO YOUR GAS ANALYSIS REQUIREMENTS

The INFICON 3000 Micro GC offers a variety of sample conditioners to assure accurate analysis and meet your analytical requirements. The Heated Vaporizer ensures sample entering the instrument is fully vaporized, the Pressure Reducer alleviates sample pressure to a safe level for analysis, and the Gas-liquid separator removes entrained liquid and particles.

The INFICON 3000 Micro GC delivers a complete analysis of hydrogen, saturated and olefinic hydrocarbons ($\text{C}_1^+\text{C}_5$ and $\text{C}_6^+$ grouped peaks), and fixed gases ($\text{O}_2$, $\text{N}_2$, $\text{CO}$, and $\text{CO}_2$) in less than 160 seconds.

**Peak Identification**

1. Hydrogen
2. Oxygen
3. Nitrogen
4. Methane
5. Carbon monoxide
6. Carbon dioxide
7. Ethylene
8. Ethane
9. Acetylene
10. Propane
11. Propylene
12. 1,2-Propadiene
13. Propyne
14. iso-Butane
15. n-Butane
16. trans-2-Butene
17. 1-Butene
18. iso-Butene
19. cis-2-Butene
20. iso-Pentane
21. n-Pentane
22. 1,3-Butadiene
23. Methyl acetylene
24. 3-methyl-2-Butene
25. trans-2-Pentene
26. 1-Pentene
27. cis-2-Pentene
28. n-Hexane

Heated Vaporizer mounted on the 1,2-Channel Micro GC.
SENSITIVE ENOUGH TO DETECT PPM-LEVEL CONCENTRATIONS OF TARGET ANALYTES

A performance enhanced configuration lets you carry out trace-level analysis right at the sampling site—even when sample concentrations are in the low ppm range. In addition, this performance-enhanced module is fully compatible with standard 3000 Micro GC modules, so you can upgrade your existing system with minimal disruption, and capitalize on new application opportunities.

SAMPLE-FOCUSED SOFTWARE SIMPLIFIES COMPLEX MEASUREMENTS

The 3000 Micro GC can be easily controlled through EZ IQ informatics software. This feature-rich and user-friendly chromatography software is trusted by chromatographers worldwide. With just a few mouse clicks, EZ IQ allows you to optimize the chromatography method, initiate sample introduction, conduct data acquisition, and provide data reports to your specifications.

CUSTOM CONFIGURATIONS TO SUIT YOUR APPLICATION

The INFICON 3000 Micro GC is available in both benchtop and portable configurations. In either setup, you can perform trace-level analysis down to the ppm* range by using our performance enhanced configuration.

1,2-Channel 3000 Micro GC: Gives you fast and dependable gas analysis with up to two GC modules in an easy to carry chassis.

3,4-Channel 3000 Micro GC: With up to 4 GC modules, you get a complete gas analysis without the hassle of configuring complex multi-position valve operations.

Portable 3000 Micro GC: When configured with onboard battery and carrier gas cylinder, you can take this instrument anywhere you desire.

3000 Micro GC module: A complete miniaturized GC system in a modular format that allows you to adapt your Micro GC to new applications by simply swapping modules.

* Low ppm range detection is application and configuration dependent.
Modular Design for Maximum Application Flexibility

The modular design maximizes uptime, with some repairs being as simple as exchanging one module for another. You can be back up and running in less than an hour.

AN INNOVATIVE MODULAR DESIGN LETS YOU ANALYZE COMPLEX STREAMS WITH A SINGLE INJECTION

The INFICON 3000 Micro GC features a modular design that simplifies troubleshooting, maximizes uptime, and allows you to use the same system for a wider variety of applications. For example, our Natural Gas Analyzer and Refinery Gas Analyzer are preconfigured with application specific injector and column combinations; and are rigorously tested to ensure proper specifications. You can also customize your 3000 Micro GC by selecting your choice of injector, column, and carrier gas types that best fits your specific application needs. Additionally, INFICON knows your sample could vary from application to application, so we offer a variety of sample conditioners to optimize your sample introduction possibilities.
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>0° to 50°C</td>
</tr>
<tr>
<td>Usage</td>
<td>Indoor or enclosed</td>
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<tr>
<td>Dimension H x W x D</td>
<td>1,2-Channel: 5.9 in. x 9.8 in. x 16.1 in. (15 cm x 25 cm x 41 cm)</td>
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<tr>
<td></td>
<td>3,4-Channel: 6.1 in. x 18.5 in. x 16.5 in. (15.5 cm x 47.2 cm x 42 cm)</td>
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<tr>
<td></td>
<td>Portable: 6.1 in. x 14.3 in. x 16.3 in. (15.5 cm x 36.4 cm x 41.3 cm)</td>
</tr>
<tr>
<td>Maximum Weight</td>
<td>1,2-Channel: 18.0 lb. (8.2 kg)</td>
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<tr>
<td></td>
<td>3,4-Channel: 27.0 lb. (12.2 kg)</td>
</tr>
<tr>
<td></td>
<td>Portable: 36.5 lb. (16.6 kg)</td>
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<tr>
<td>Power Supply</td>
<td>1,2-Channel and 3,4-Channel: 100 to 240 VAC</td>
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<tr>
<td></td>
<td>Automobile power supply: 12 VDC, &gt;13.5 VDC for battery re-charging</td>
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<tr>
<td>Carrier Gas</td>
<td>Helium, hydrogen, nitrogen, argon</td>
</tr>
<tr>
<td>Carrier Gas Pressure</td>
<td>80 ±2 psig (552 ±14 kPa)</td>
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<tr>
<td>Column Temperature</td>
<td>Isothermal operation: ambient plus 15 to 180°C, and no less than 30°C</td>
</tr>
<tr>
<td>Repeatability</td>
<td>Typically RSDs at constant temperature and pressure (for C\textsubscript{1} to C\textsubscript{6} components at % level):</td>
</tr>
<tr>
<td></td>
<td><strong>INJECTOR TYPE</strong>                      <strong>AREA REPEATABILITY</strong></td>
</tr>
<tr>
<td>Variable volume</td>
<td>≤1% RSD</td>
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<tr>
<td>Backflush, timed mode</td>
<td>≤1% RSD</td>
</tr>
<tr>
<td>Fixed volume</td>
<td>≤0.2% RSD</td>
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<tr>
<td>Backflush, fixed mode</td>
<td>≤0.5% RSD</td>
</tr>
<tr>
<td>Linear Dynamic Range</td>
<td>10\textsuperscript{6} ± 10%</td>
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<tr>
<td>Detection Limit</td>
<td>Low ppm</td>
</tr>
</tbody>
</table>

**ABOUT INFICON**

INFICON provides essential toxic chemical analysis instrumentation for emergency response, security and environmental applications, as well as gas leak detection products for air conditioning/refrigeration manufacturing and repair. INFICON products and expertise also provide process-intelligent information for timely decisions in the complex fabrication of semiconductors and thin film coatings for flat-panel displays, solar cells, magnetic and optical storage media, scientific and consumer optics, and architectural glass coatings. INFICON is headquartered in Switzerland and has world-class manufacturing facilities in Europe, the United States and China, as well as subsidiaries in China, Finland, France, Germany, Japan, Korea, Liechtenstein, Singapore, Switzerland, Taiwan, the United Kingdom and the United States. INFICON registered shares (IFCN) are listed on the SIX Swiss Exchange. For more information about INFICON and its products, please visit www.inficon.com.