About Us:
Peak Labs is a world leader in design and manufacturing of process gas chromatographs (GC). We provide simple, innovative, complete solutions for trace to percent level analysis. Our analyzers are equipped with a unique design, which allows our customers to accurately measure trace gas to part per trillion levels, while maintaining a wide linear range. Peak Labs practical experience and ability for customization to suit your application needs makes us your analytical partner, not just your supplier.

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Flame Ionization Detector (FID):
(For the Detection of Hydrocarbon Impurities)

The GC FID uses a highly sensitive flame ionization detector, which is integrated with Peak’s unique design specifically for the process application in UHP gases. C-H bonds are ionized and “collected” via a voltage grid within the detector. This produces an electronic signal proportional to the number of ions, otherwise known as concentrations, within the sample onto easy to read multi-interface LCD screen. The FID is used to measure trace amounts of hydrocarbon and carbon dioxide impurities in N₂, Ar, He, O₂, H₂, N₂O, Air & other specialty gases. These measurements are made down to part per trillion levels, while offering a wide linear range for simple, accurate data.

Features:
- Backlit, User Friendly Touchscreen (LCD)
- Multiple Communication Protocols
- Visual Chromatogram and Numerical Results
- Excel Compatible Data
- Accurate, Effective and Reliable Design
- On-board Integration with Rerun Capability

Benefits:
- Continuous Monitoring
- Custom Solutions for your Processing Needs
- Quick, Reliable Global Support and Training
- Lower Total Cost of Ownership
- Offers Simple and Accurate Measurements, down to the Part Per Trillion Level

Fields of Application:
- Air Separation Plants
- Regulatory Air Monitoring
- Government & University Research Institutes
- Quality Assurance / Control
- Semiconductor Plants
- Purifier Manufacturers
- Process Control
- Medical Research Labs
The Peak Performer 1 FID gas chromatograph (GC) can be optimized for your analytical needs in a variety of matrix gases. Typical applications are provided below:

- CH₄, CO₂, NMHC (non-methane hydrocarbons) in UHP bulk process gases
- CH₄ production in bio-reactors
- Atmospheric CH₄ and NMHC / THC analysis

### Performance

Typical lower detection limits (in parts per trillion)

<table>
<thead>
<tr>
<th>Impurity</th>
<th>Matrix Gas</th>
<th>N₂, Ar, He</th>
<th>O₂</th>
<th>Air</th>
<th>H₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH₄: Methane</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>
| CO: Carbon Monoxide | *         | *          | *    | 5 ppb | *
| CO₂: Carbon Dioxide | 800      | 800        | N/A  | 800 | 800  |
| NMHC           | 800        | 800        | 800  | 800 | 800  |

* Contact local representative for specific details

All performance specifications are based on fully optimized PP1 FID with 5 cc sample loop on continuous analysis.

Unless specified, carrier gas is purified nitrogen

FID fuel gases are UHP grade < 1000 ppb impurities

### Accuracy

- + / - detection limit or 10 % of reading, whichever is higher

### Range

- 10000 : 1
  - Examples:
    - < 1 ppb- 10 ppm w/ 5 mL sample loop
    - < 5 ppb- 50 ppm w/ 1 mL sample loop

### Dimensions / Electrical

- 27” L x 17” W x 7” H
- 25 lbs.
- 115 VAC, 50 – 60 Hz / 220 VAC, 50-60 Hz
- 1.5 amp maximum

### Operation

- Run time ~ 400 seconds (depending on application)
- Operating Temperature:
  55 - 85 °F (13 - 30 °C)
- Gas Supply Requirements:
  - Carrier: Getter Purified Nitrogen
    - Supply pressure 70 – 110 psig with 5% stability
  - FID H₂:
    - 99.999% pure or purified < 1000 ppb impurities
    - Supply pressure 25 – 45 psig with 5% stability
  - FID Air:
    - 99.999% pure or purified < 1000 ppb impurities
    - Supply pressure 5 – 45 psig with 5% stability
- Data Collection / Communication:
  - 0-1 VDC Analog Outputs
  - RS232, RS485 Serial Communication
  - Data Archive / Viewer / Trend Log/ Raw Detector Signal

### Options:

- On Column Syringe Injector Adapter
- Dual Sample Stream
- 4-20 mA Output