

## 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.

## 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 **hydrocarbons and carbon dioxide** impurities in N<sub>2</sub>, Ar, He, O<sub>2</sub>, H<sub>2</sub>, N<sub>2</sub>O, 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

## Contact:

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Contact us.

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:

- CH<sub>4</sub>, CO<sub>2</sub>, NMHC (non-methane hydrocarbons) in UHP bulk process gases
- CH<sub>4</sub> production in bio-reactors
- Atmospheric CH<sub>4</sub> and NMHC / THC analysis

## Performance

Typical lower detection limits (in parts per trillion)

Impurity	Matrix Gas	N <sub>2</sub> , Ar, He	O <sub>2</sub>	Air	H <sub>2</sub>
CH <sub>4</sub> : Methane		500	500	500	500
CO: Carbon Monoxide		*	*	*	5 ppb
CO <sub>2</sub> : Carbon Dioxide		800	800	N/A	800
NMHC		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

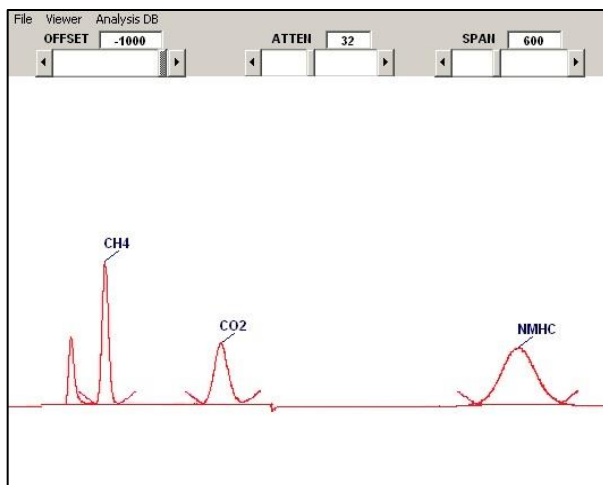
- + / - detection limit or 10 % of reading, whichever is higher

### 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 H<sub>2</sub>:  
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