



SIMPLIFY AND ACCELERATE GAS ANALYSIS



# Micro GC Fusion®

GAS ANALYZER

# Maximum throughput and easy operation for fast decisions when they matter most

Micro GC Fusion offers significant throughput gain through rapid temperature ramping and modular architecture. The transportable, lightweight chassis and web-based user interface enables simplified operation for both on-site and in-lab gas analysis.

## OPTIMAL THROUGHPUT

Micro GC Fusion is equipped with a resistively heated GC column allowing up to 300°C/min. temperature ramping which reduce analysis time and enhance sensitivity for extended hydrocarbon analysis. Micro GC Fusion utilizes a modular GC architecture, allowing up to four GC modules to be housed in a single product, giving the ability to provide parallel analysis of an injected sample. Each independently programmed GC module is comprised of an injector, a temperature programmable column and a detector. Through integration with Valco stream selector, Micro GC Fusion can analyze individual gas streams with sample specific methods, freeing lab technicians from manually switching sample lines or changing methods to optimize throughput.



Rack mountable chassis is optimized for online applications

## EASY OPERATION

The *FAST* (Fusion Auto-Sensing Technology) enabled Micro GC Fusion significantly simplifies method development for analytical chemists to achieve accurate analysis over a broad sample concentration range. *FAST* is a major technological advancement that allows both high percentage and low ppm components to be analyzed in the same run, using a single GC module. An analysis can be run directly from the front panel display or from an external computing device. The web-based chromatographic software is operable on a smartphone, tablet or computer with connectivity through Wi-Fi or wired Ethernet. It is operating system independent and requires no licensing and installation, relieving lab managers from maintaining computer and chromatography software compatibility.



An optional heated integrated sample conditioner may be factory configured to allow field technicians to accurately analyze sample gas streams at input pressures up to 1000 psi.

## APPLICATIONS

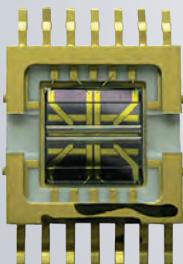
- Natural gas and extended natural gas
- H<sub>2</sub>S and odorants in natural gas
- SO<sub>2</sub> and H<sub>2</sub>S gas monitoring
- Permanent gases and olefins in refinery gas
- Syngas, fuel cell, landfill gas and biogas
- Impurities in petrochemical products and specialty gases
- Solvent/VOC gas monitoring
- Catalyst research for alternative energy
- Mud logging in oil and gas exploration
- Mine gas

Maximize instrument availability with integration of optional sample conditioner, front panel display, embedded software and data storage.



Simplify on-site analysis with front panel display that provides instrument control, analysis result and status update.

**FAST  
ENABLED**



Simplify the analysis of complex samples containing high percentage and low ppm components using Micro GC Fusion Auto-Sensing Technology (FAST).

MEMS μTCD capable of measuring down to 1 ppm



Minimize sample handling with optional Integrated Sample Conditioner that provides programmable purging, sample pressure and temperature regulation.



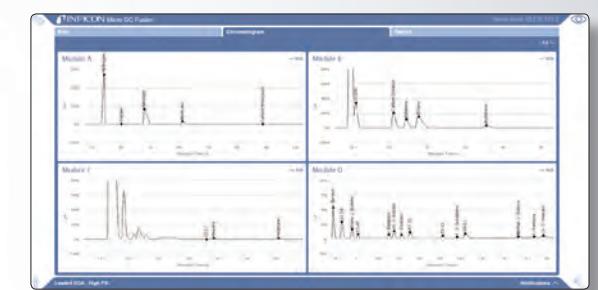
Minimize run time with parallel analysis by multiple GC modules and fast temperature ramping.

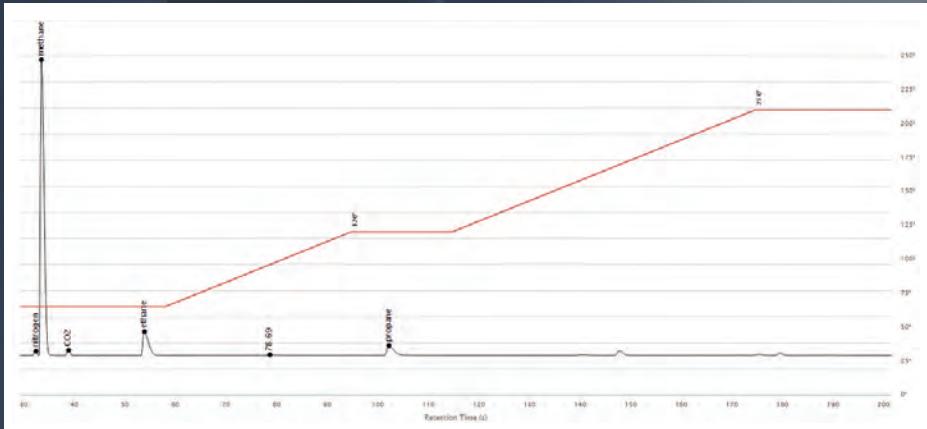
Automate multiple stream sampling with preassembled Valco Stream Selector.

Simplify network connectivity with embedded Wi-Fi to enable instrument control from computer, tablet and smart phone.



Simplify operation with a license-free web-based user interface that is accessible from any web browser.





## PERMANENT GASES AND HYDROCARBONS IN NATURAL GAS

COLUMN: 12m Rt®-Q-Bond

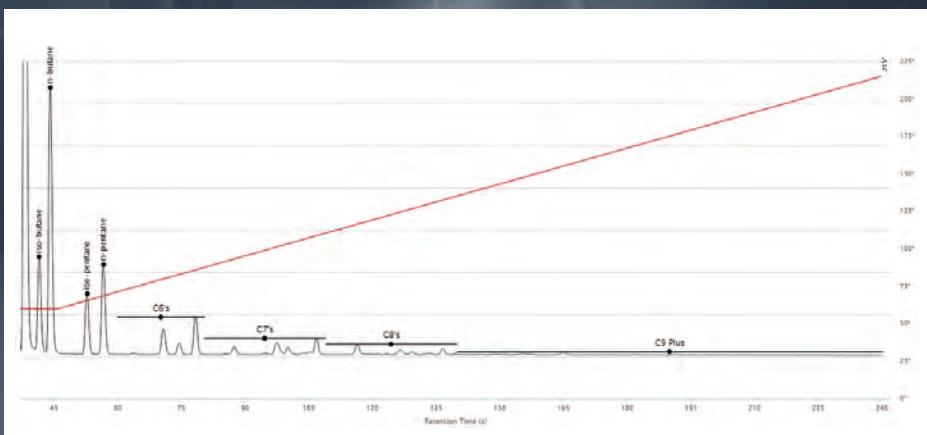
COLUMN TEMPERATURE:

65°C (58 s) > 1.5°C/s >

120°C (20 s) > 1.5°C/s >

210°C (30 s)

CARRIER GAS: Helium



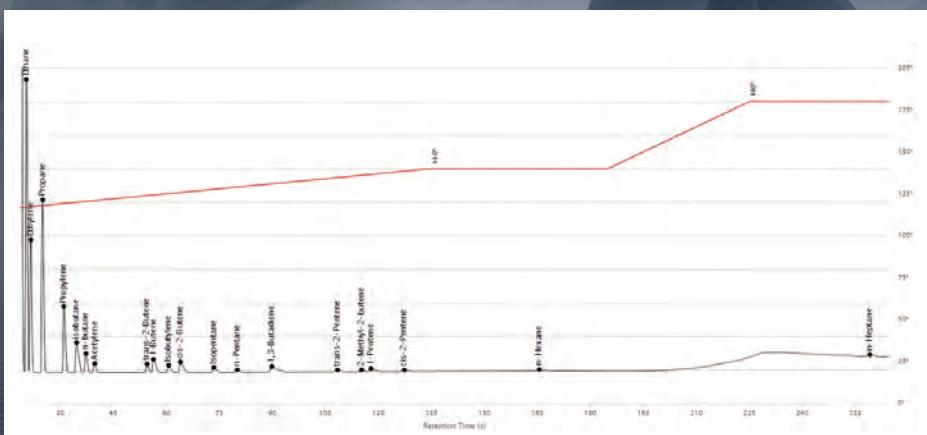
## PERMANENT GASES AND HYDROCARBONS IN NATURAL GAS

COLUMN: 10m RxI®-1ms

COLUMN TEMPERATURE:

60°C (46 s) > 0.8°C/s > 215°C (0 s)

CARRIER GAS: Helium



## C2-C7 HYDROCARBONS IN REFINERY GAS

COLUMN: 10m Rt®-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>

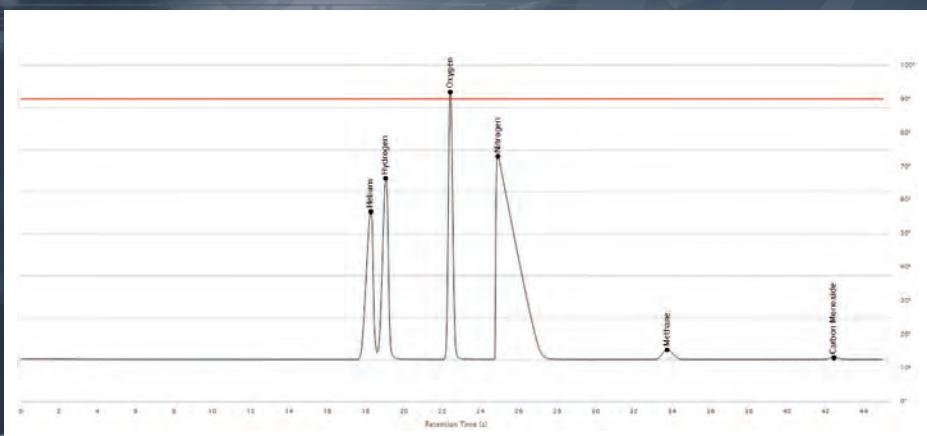
COLUMN TEMPERATURE:

115°C (10 s) > 0.2°C/s >

140°C (50 s) > 1°C/min >

180°C (40 s)

CARRIER GAS: Helium



## PERMANENT GASES

COLUMN: 10m Rt®-Msieve 5A

COLUMN TEMPERATURE: 90°C

CARRIER GAS: Argon

## SPECIFICATIONS

### Dimensions/weight

Maximum weight: 2-module chassis	6.2 kg (13.6 lb.)
Maximum weight: 4-module chassis	15.4 kg (33.8 lb.)
Dimensions (L x W x H): 2-module chassis	46.2 x 19.6 x 25.4 cm (18.2 x 7.7 x 10 in.)
Dimension (L x W x H): 4-module chassis	47.5 x 43.2 x 27.1 cm (18.7 x 17 x 10.7 in.)

### Injectors

Types	Variable volume, variable large volume, backflush, fixed volume
<b>Carrier gas</b>	External cylinder Helium, hydrogen, nitrogen, argon
<b>GC columns</b>	Wall Coated Open Tubular (WCOT) Porous Layer Open Tubular (PLOT)

### Programmable column temperature

Maximum	250°C or column phase maximum, whichever is lower
Resolution	0.1°C
Heating rate	5°C per second maximum, column dependent

### Thermal conductivity detector

Linear dynamic range	10 <sup>6</sup> ±10%
Detection limit	1 ppm, n-Hexane (WCOT columns)
Internal volume	240 nL (MEMS)

### Repeatability

Retention time	≤0.1% RSD (WCOT columns)
Peak area	≤1% RSD (compounds at ≥0.1% concentration, WCOT columns)

### Environmental conditions

Operating temperature	0–50°C ambient
Relative humidity	5–95% (non-condensing)
Vibration: 2-module chassis	MIL-STD-810F-514.5C, Highway Truck Vibration

### Control software

Operating system	Web-based compatible with common web browsers
Driver	Driver for EZ IQ and OpenLAB CDS EZChrom

### Communication

Wired Ethernet	RJ-45 connection
Wireless Ethernet	IEEE 802.11a/g/n

### Power supply

Power supply input	100–240 V (ac), 50–60 Hz, 5 A
Power supply output: 2-module chassis	24 V (dc), 10.83 A, 260 W

## DIMENSIONS



2-Module Chassis

4-Module Chassis

 **INFICON** Bring the Lab to the Sample™

[www.inficon.com](http://www.inficon.com) [reachus@inficon.com](mailto:reachus@inficon.com)

Fusion is a registered trademark of INFICON.

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

dibf119a1-e ©2016 INFICON