



**Agilent 490 Micro GC**

# Measure anywhere

capability that delivers  
sensitive gas analysis  
in seconds

The Measure of Confidence



**Agilent Technologies**

# Introducing the Agilent 490 Micro GC

The information you need, wherever you need it

If you want the ability to measure anywhere and get the results you need in seconds, the Agilent 490 Micro GC is the ideal solution. With its rugged, compact, laboratory quality gas analysis platform, the 490 Micro GC generates more data in less time for faster, and better, business decisions. When the composition of gas mixtures is critical, count on this fifth generation micro gas chromatograph instrument to deliver every time.

**With its *genuinely better* technology, the Agilent 490 Micro GC gives you greater confidence in your analysis results and decision-making.**

## Options to suit your needs

The 490 Micro GC is available in optional sizes and configurations for greater flexibility in meeting a variety of applications.

- A 19-inch rack mounted chassis is available for process control applications. (Rack mounting of hardware may be required.)
- A self-contained, portable version can be used at measurement locations where no carrier gas or power is available. Built-in gas cylinders and rechargeable battery provide up to eight hours of productive field time.



Quick and easy start-up lets you achieve results in minutes, even if you change measurement locations frequently.

# Accurate analysis and measurement without limits

## Designed for flexibility and ease-of-use

The Agilent 490 Micro GC is designed to provide maximum flexibility and customization. You are able to utilize a full palette of options – including optimized sample conditioning, up to two sample inlets and up to two carrier gases – to achieve greater sensitivity, performance, and practicality.

What's more, the Agilent 490 Micro GC is easy to use. With available autonomous operation, engineers and analysts in a variety of industries can generate measurement results without special training or skills.

## Modular and “ready-to-go”

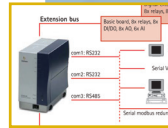
The Agilent 490 Micro GC is pre-configured and tested at the factory for your specific analysis needs, and arrives ready to be put to use. Modular construction means the system can be quickly reconfigured in the field for new applications, with user-installable plug-and-play GC channels. Two bench-top cabinets are available – the DUAL version for 1 to 2 channels and the QUAD for 1 to 4 channels. Every channel is a complete, miniaturized GC with electronic gas control, injector, narrow-bore column and detector, for fast, high efficiency separations. Each is independently controlled, including injection volume, column oven temperature, and carrier gas.

With micro-electronic gas control and time-programmable backflush, you can analyze sample components of interest while eliminating those that are not. Backflush capability prevents less volatile components and other undesired contaminants such as moisture from reaching the column.



### Narrow-bore capillary GC columns.

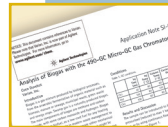
Answers achieved in seconds, through the use of narrow-bore capillary, PLOT, and micro-packed columns. Page 4



**Extensive remote control and I/O capability.** Facilitates seamless integration and utilization within existing enterprise operations. Page 4



**Agilent EZChrome Elite.** The 490 Micro GC works with Agilent EZChrome Elite for comprehensive system control. Page 6



### Unparalleled performance in any application.

From calorific value determination... to biogas... to air monitoring, the 490 Micro GC delivers immediate gas analysis. Page 5



### An array of cabinets and housing types.

Includes 1 or 2 channel, 3 or 4 channel “bench”, a 19-inch rack mount, and is fully self-contained for portability and flexibility. Page 2



**Portable and flexible.** Compact dimensions and portability open up an array of measurement possibilities. Page 7



**Accessories enhance performance and functionality.** Expand range of samples, improve flexibility, and ensure reliable particle removal. Page 7



**PROstation set-up tool.** Assign IP address, read instrument configuration, check instrument status, set analytical method and calibration, and more. Page 6



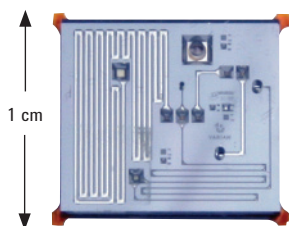
**Eco-friendly.** A footprint smaller than the area of this page – for use in the laboratory, field, and on the road.

To learn how the Agilent 490 Micro GC can help you make better business decisions, visit [www.agilent.com/chem/microGC](http://www.agilent.com/chem/microGC)

# Engineered for the **fastest possible results**

With the Agilent 490 Micro GC, faster separations are made possible by narrow-bore capillary GC columns. These are fully exploited when all sampled components are miniaturized. The micro-machined injector and thermal conductivity detector ( $\mu$ TCD) together with a narrow-bore column, deliver separations of gases in a matter of seconds.

## Micro-machined injector



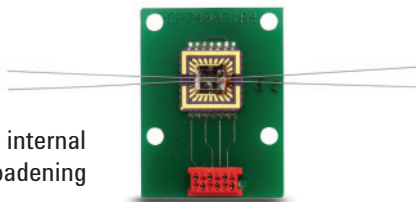
Micro-machined injector

- **Higher dependability.** Silicon micro-machined injector has no moving parts
- **More functionality.** Software-selectable injection volumes from 1  $\mu$ L to 10  $\mu$ L cover a wide range of application requirements

- **Eliminate wear and tear.** Available backflush capability keeps the analytical column well protected
- **Improved performance.** Injector can be heated to 110° C, which eliminates discrimination of higher hydrocarbons

## Micro-machined Thermal Conductivity Detector ( $\mu$ TCD)

- **Better data quality.** 200 nL internal volume eliminates peak broadening
- **Greater sensitivity.** Detection limit is 1 ppm for WCOT capillary columns and 10 ppm for “micro-packed” and PLOT columns (component dependent)



Micro-machined thermal conductivity detector

## The 490-PRO Micro GC: no local operator required

Designed to be a “system” component, the 490-PRO Micro GC does not require an external computer to generate data and results. Instead, it features on-board data collection and integration, and result generation. User-defined information is then automatically passed on to an external system (ex. process control) in a completely unattended manner.

For added convenience of on-line/at-line analysis, the 490-PRO Micro GC is also available in a 19-inch rack mounted chassis. Sampling and sample conditioning devices, such as stream selection valves and Genie membrane filters, can be mounted within the housing. The 490-PRO Micro GC does not use flammable gases, and requires only small quantities of sample gas for analysis and monitoring, making it the preferred choice for use in environments where operational safety is of paramount importance.

490-PRO Micro GC





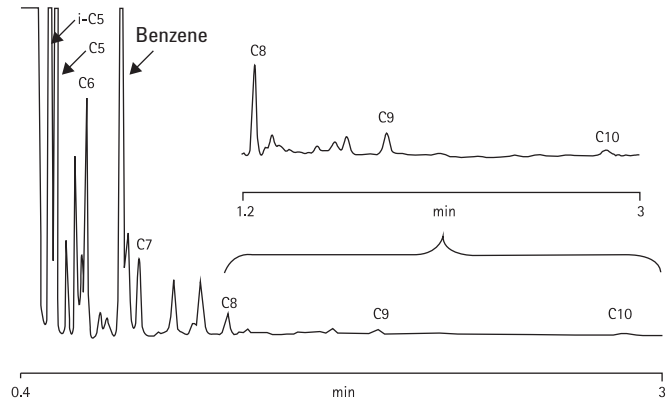
# Analyze and measure with **confidence**

## Key applications

For production and research, the Agilent 490 Micro GC provides gas analysis in a matter of seconds. It delivers unparalleled performance in any application where precise gas analysis saves money and adds value. Examples include:

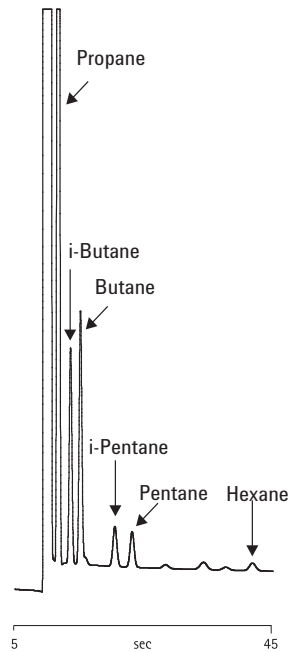
- Natural gas/calorific value determination
- Analysis of simple to complex refinery gases
- Oil/gas exploration, mud logging
- Analysis and quality control of specialty gases
- Biogas
- Assessing efficiency of catalysts, fuel cell stacks
- Air monitoring

## Extended Hydrocarbons



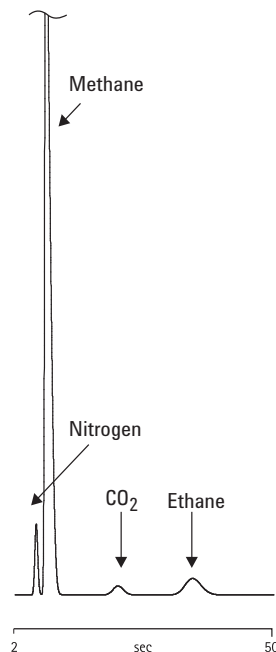
The analysis of extended hydrocarbons in natural gas.

## Hydrocarbons



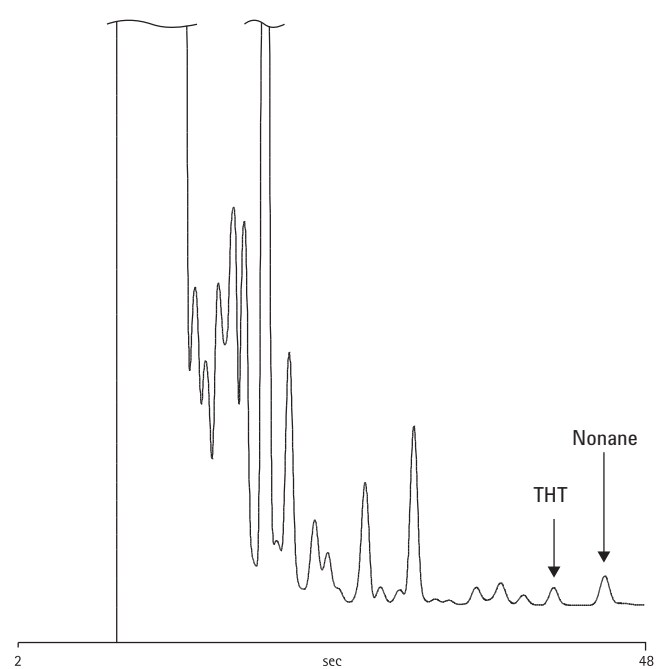
The analysis of hydrocarbons in natural gas.

## Permanent Gases



The analysis of permanent gases in natural gas.

## THT (odorant)



The analysis of THT (odorant) in natural gas.

To see how the Agilent 490 Micro GC delivers results in seconds, visit [www.agilent.com/chem/microGC](http://www.agilent.com/chem/microGC)

# Agilent EZChrom: the software of choice for comprehensive system control

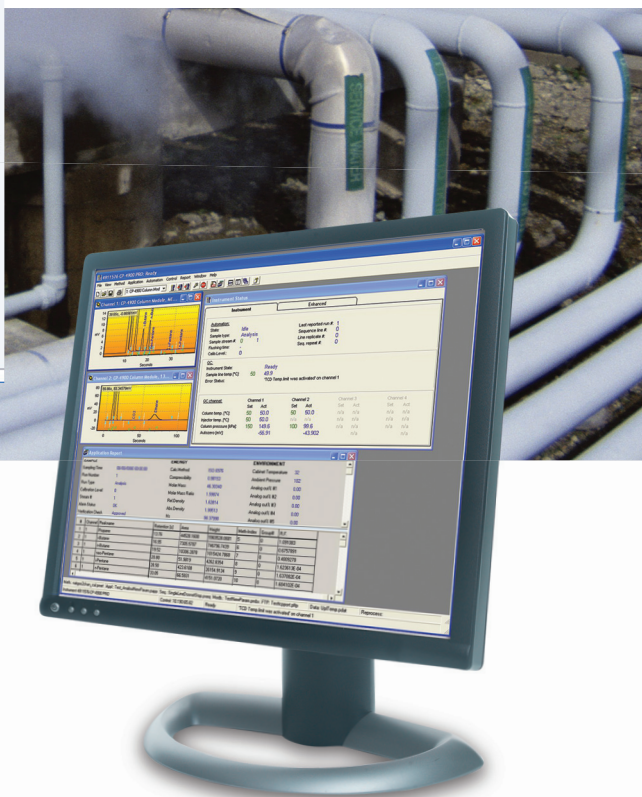
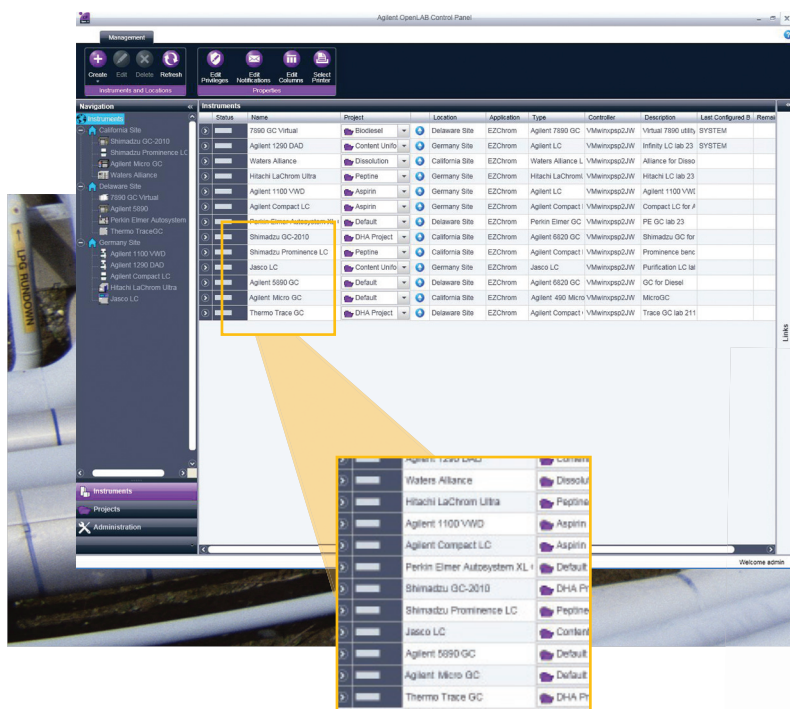
The Agilent 490 Micro GC is designed to work with Agilent EZChrom Elite, for optimal results. EZChrom Elite supports instrument control and digital data acquisition from a vast number of chromatographic systems and related hardware manufacturers around the world.

- **Single platform for all instruments.** There is no need for costly deployment of multiple software packages from different vendors.
- **Scalable and easy to use.** All versions share a common user interface and common formats for data and method files. Regardless of initial deployment size, EZChrom Elite can seamlessly grow with your lab – without the need for costly user retraining and method revalidation.

## PROstation for 490-PRO Micro GC

Powerful PROstation software allows you to quickly set up the initial analysis method and validate the application. The on-board data handling system takes over complete operation of the 490-PRO Micro GC.

- **Wide range of applications.** For bulk and trace analysis – including complex sample compositions.
- **Standalone functionality.** Does not require an external computer.
- **Safe to operate.** The instrument does not require flammable gases to operate and uses a small quantity of sample gas.



# Optimize performance with these accessories



## Micro-Gasifier

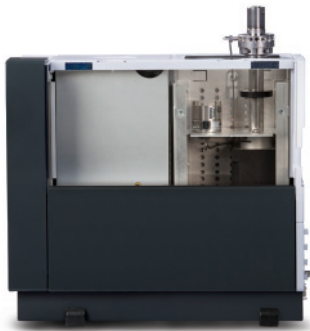
### Expand the range of samples you can analyze

The Micro-Gasifier provides controlled Liquid Petroleum Gas (LPG) and Liquefied Natural Gas (LNG) sample evaporation before the sample is introduced into the gas chromatographic injector for analysis. In addition, high-pressure gas samples can be reduced without creating cold spots, which prevents discrimination in the sample.

## Accessory bracket

### Use accessories more conveniently

The Micro GC accessory bracket is an on-board universal mounting platform for accessories, which occupies one channel position in the 490 Micro GC. With the accessory bracket, stream selection valves, Micro-Gasifier, Genie membrane filters, pressure regulator, sample pressure sensors, and sample relief valves can be integrated.



## Syringe Injection

### Improve flexibility in sample handling

With the syringe injection, ad hoc samples can be analyzed more easily. Gas samples can be injected with a syringe in the 490 Micro GC via the optional inlet on the front of the instrument. The sample can be introduced via a septum cap or by using a Luer-lok connection.



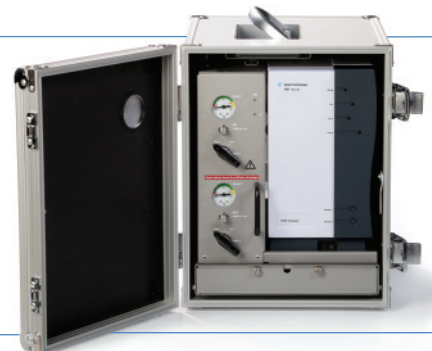
## Genie Membrane Filter

### Ensure reliable particle removal

The Genie membrane filter will remove particles and liquids from your gas sample. This helps ensure proper functioning of the micro-machined injector – for a longer lifetime of reliable results. The filter is suitable for ppb up to percentage level analysis, is fully inert, and is compliant for calorific value determination methods.

## Field case provides on-the-go measurement convenience

With the 490 Micro GC, gas analysis in the field is made easy. Compact in size and weight, the instrument can be easily transported in this fully self-contained field case. That makes it the ideal solution for perimeter monitoring, multiple drilling locations, and transporting to natural gas pipelines and metering stations. Analysis and testing can be conducted on-site or remotely via the Internet.



Want superior performance in any application? Visit [www.agilent.com/microGC](http://www.agilent.com/microGC)

# For **genuinely better** analysis performance, the Agilent 490 Micro GC gives you the results you need in seconds

## The Agilent 490 Micro GC features:

- More data generation in less time for faster, better business decisions
- Compact dimensions making it easily transportable
- Modular and flexible; easily reconfigured for a variety of applications
- Easy to operate, without special training or skills

## A comprehensive portfolio from the leader in gas chromatography

Agilent provides the broadest selection of gas chromatography (GC) and gas chromatography/mass spectrometry (GC/MS) systems, support, and supplies in the industry. So whether you need flexible, reliable hardware and software for complex research; simple, robust systems for routine production environments; or fast, rugged portable solutions for real-time measurements in the plant or in the field, we have a GC or GC/MS to meet your analytical and business challenges.

Agilent GC columns are designed and manufactured to offer excellent, reproducible performance for the benign to the most difficult types of samples. With the lowest

bleed levels, the best inertness for acids, bases, or mixed functional compounds, and the tightest column-to-column reproducibility – Agilent GC columns are of higher quality and perform better than any other columns on the market.

Ensuring clean gas delivery is essential for accurate gas chromatography. Agilent Gas Clean Filters provide leak-free filter replacement that reduces downtime. They are very economical, with immediate payback, and the highly sensitive filter indicators provide maximum instrument protection.

## Agilent services let you focus on what you do best

Should your Agilent instrument require service while covered by an Agilent service agreement, we guarantee repair or we will replace your instrument for free. No other manufacturer or service provider offers this level of commitment – keeping your laboratory running at maximum productivity.



### Learn more:

[www.agilent.com/chem/microGC](http://www.agilent.com/chem/microGC)

### Buy online:

[www.agilent.com/chem/store](http://www.agilent.com/chem/store)

### Find an Agilent customer center in your country:

[www.agilent.com/chem/contactus](http://www.agilent.com/chem/contactus)

### U.S. and Canada

1.800.227.9770

[agilent\\_inquiries@agilent.com](mailto:agilent_inquiries@agilent.com)

### Europe

[info\\_agilent@agilent.com](mailto:info_agilent@agilent.com)

### Asia Pacific

[inquiry\\_lsca@agilent.com](mailto:inquiry_lsca@agilent.com)

Or contact your local Agilent Representative  
or Agilent Authorized Distributor

This information is subject to change without notice.

© Agilent Technologies, Inc. 2010  
Printed in the USA December 15, 2010  
5990-6664EN



**Agilent Technologies**