

# Ensure Composition, Purity, and Calorific Value

Agilent natural gas analyzers



# Produce Accurate, Reliable Data and Maximize Product Quality

Before it can be sold, natural gas must meet specifications for calorific value and purity. Accordingly, collection, processing, transmitting, and distribution require an array of analytical capabilities.

## Confidently measure permanent gases and hydrocarbon content with Agilent natural gas analyzers

Agilent natural gas analyzers (NGAs) are based on Agilent 8890 GC or 990 Micro GC systems. Each is factory configured and chemically tested to deliver the results you need, fast, while saving you precious startup time.

Choose from standard or extended configurations, or for a solution for sour natural gas. Our ability to create custom analyzers, along with specialty hardware and modifications, allows you to customize a natural gas analyzer for your specific needs.



Agilent 8890 GC with Large Valve Oven

Agilent 990 Micro GC system



## Agilent 8890 fast GC

### Precisely analyze natural gas

Separating complex mixtures of hydrocarbons and permanent gases (oxygen, nitrogen, and carbon dioxide) can be difficult on a single-channel GC. The Agilent 8890 natural gas analyzer is configured for one or two channels and conforms to ASTM D1945, GPA 2261, and GPA 2286 methods.

- A second thermal conductivity detector (TCD) channel improves hydrogen detection and linearity.
- Optional flame ionization detector (FID) enables low-level hydrocarbon analysis.
- Customized reporting simplifies data review and processing. OpenLab CDS reporting provides calculations in mole, weight, or volume percentages, and calculated heat content. It also offers the calorific value add-on.

[Learn more](#)

## Agilent 990 Micro GC

### Precision results in seconds

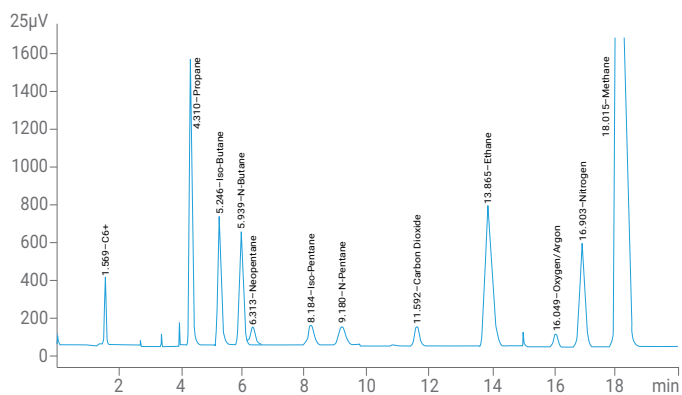
Agilent 990 Micro GC natural gas analyzers cover key GPA, ISO, and GB/T methods, and they provide accurate compositional data and calculated physical properties. Their small size and mobility make them ideal for labs, pilot plants, and field work—delivering the information you need anytime, anywhere.

- Ready-to-go configuration and methods include proven hardware and software.
- Reporting is based on standardized GPA, ISO, and GB/T calculation methods.
- Options include sample pressure reduction, filtering, and automated stream selection valves.
- Natural gas odorant monitoring is available in an optional extra channel.

Additionally, the Agilent 990 Micro GC PRO is designed for online process environments and features onboard data collection, integration, and result generation.

- Control processes by directing automatic user-defined information to an external system.
- Eliminate the need for an external computer by using our onboard setup feature.
- Meet industry standards with confidence through various communication protocols, such as Modbus, FTP, and 4-20 mA.
- Enable online monitoring of calorific value and odorants (such as THT or DMS).
- Deliver quick analysis of dissolved gases in mud-logging during drilling operations that need to be constantly monitored.

[Learn more](#)



Agilent 8890-0192 GC is a natural gas analyzer (NGA) with percent levels of hydrogen sulfide per GPA 2261 and with early backflush of the C6+ components.





## Agilent GC gasifier

### Reliably introduce liquefied gas into your GC

The Agilent GC gasifier accessory safely controls the transition of liquefied gas to a gaseous state without discrimination or adsorption due to its inert flow path. So you can feel confident that the sample in the line is the sample being analyzed.

- Samples are delivered to the GC system under constant flow and pressure.
- Control and monitor the gasifier with ease through the GC user interface.
- Seamlessly switch between two samples—or one sample plus a calibration standard or purge gas.
- Purge N<sub>2</sub> gas without the need to disconnect samples.

[Learn more](#)



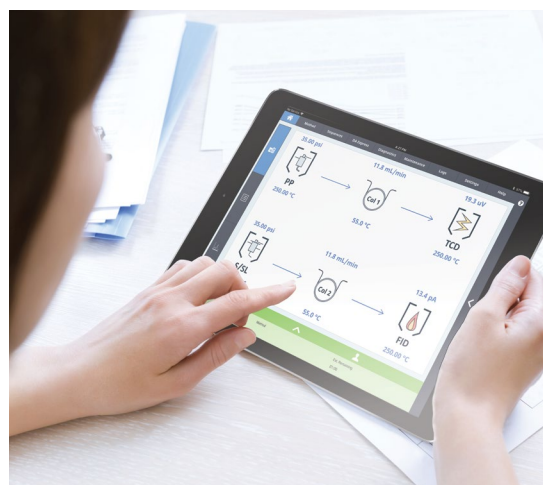
Agilent GC gasifier for 990 Micro GC, 8860 GC, and 8890 GC. Part Number G3535A.

## Intelligent GC instruments that work as hard as you do

Natural gas analyzers based on the Agilent 8890 GC—part of a new breed of instrument—monitor system health, alert you to potential issues, and help you solve problems. That means you can plan your work, including maintenance, rather than react to unexpected downtime.

In addition, analyzers feature core microchannel-based electronic pneumatic control (EPC). Unique to Agilent, this design protects against gas contaminants—such as particulates, water, and oils—improving reliability and longevity.

Best of all, you can check on your lab anytime from anywhere. Remote access features let you view setup information, troubleshoot problems, check for leaks, backflush columns, pause and start sample runs, and manage method development.





## Agilent natural gas analyzers capabilities

Analyzer	Agilent 8890 GC Analyzers					Agilent 990 Micro GC Analyzers			
	Extended NGA	Single-channel NGA	Dual-channel NGA	Sour gas NGA	Sour gas NGA	NGA A	NGA A Extended	NGA B	NGA B Extended
Option Number	#610	#611	#612	#613	#615	#120	#121	#122	#123
Valves	3	3	4	3	3	NA	NA	NA	NA
Detectors	TCD/FID	TCD	TCD/TCD	TCD	TCD/TCD/FID	2x $\mu$ TCD	3x $\mu$ TCD	2x $\mu$ TCD	3x $\mu$ TCD
Columns	4 (capillary and packed)	4 (packed)	6 (packed)	4 (packed, corrosion-resistant plumbing)	6 (packed)	2 (micropacked and WCOT)	3 (micropacked, PLOT, and WCOT)	2 (PLOT and WCOT)	3 (PLOT and WCOT)
Analysis Time	20 minutes	20 minutes	20 minutes	30 minutes	18 minutes	6 minutes	2 minutes	6 minutes	2 minutes up to C <sub>7</sub> , 6 minutes up to C <sub>9</sub>
Hydrocarbon Range	C <sub>1</sub> -C <sub>12</sub>	C <sub>1</sub> -C <sub>5</sub> , C <sub>6</sub> + as backflush	C <sub>1</sub> -C <sub>5</sub> , C <sub>6</sub> + as backflush	C <sub>1</sub> -C <sub>5</sub> , C <sub>6</sub> + as backflush	C <sub>1</sub> -C <sub>14</sub>	C <sub>1</sub> -C <sub>9</sub>	C <sub>1</sub> -C <sub>10</sub>	C <sub>1</sub> -C <sub>9</sub>	C <sub>1</sub> -C <sub>9</sub>
Permanent Gases	O <sub>2</sub> , N <sub>2</sub> , CO, CO <sub>2</sub>	O <sub>2</sub> , N <sub>2</sub> , CO, CO <sub>2</sub>	H <sub>2</sub> , He, O <sub>2</sub> , N <sub>2</sub> , CO, CO <sub>2</sub>	O <sub>2</sub> , N <sub>2</sub> , CO, CO <sub>2</sub>	H <sub>2</sub> , He, N <sub>2</sub> , CO	Air, CH <sub>4</sub> , CO <sub>2</sub>	Air, CH <sub>4</sub> , CO <sub>2</sub>	Air, CH <sub>4</sub> , CO <sub>2</sub>	H <sub>2</sub> , He, Ne, N <sub>2</sub> , CO, O <sub>2</sub>
Minimum Detection Level (Hydrocarbons)	50 ppm on TCD, 10 ppm C <sub>3</sub> -C <sub>12</sub> on FID	0.01mol %	0.01mol %	0.01mol % 500 ppm for H <sub>2</sub> S	50 ppm C <sub>1</sub> -C <sub>5</sub> , 10 ppm C <sub>5</sub> -C <sub>6</sub>	10 ppm C <sub>1</sub> -C <sub>2</sub> , 1 ppm C <sub>3</sub> -C <sub>9</sub>	10 ppm C <sub>1</sub> -C <sub>2</sub> , 1 ppm C <sub>3</sub> -C <sub>9</sub>	2 ppm C <sub>1</sub> -C <sub>2</sub> , 1 ppm C <sub>3</sub> -C <sub>9</sub>	20 ppm C <sub>1</sub> 2 ppm C <sub>2</sub> 1 ppm C <sub>3</sub> -C <sub>9</sub>
Minimum Detection Level (Permanent Gases)	50 ppm	0.01mol %	0.01mol %	0.01mol %	50 ppm C <sub>1</sub> -C <sub>5</sub> , 10 ppm C <sub>5</sub> -C <sub>6</sub>	10 ppm CO <sub>2</sub>	10 ppm CO <sub>2</sub>	2 ppm CO <sub>2</sub> , H <sub>2</sub> S	2 ppm H <sub>2</sub> , He 20 ppm Ne, O <sub>2</sub> , N <sub>2</sub> , CO, CH <sub>4</sub> 1 ppm C <sub>3</sub> -C <sub>9</sub>
Configured Per	GPA 2286	ASTM D1945, GPA 2261	ASTM D1945, GPA 2261	ASTM D1945, GPA 2261	GPA 2286	NA	NA	NA	NA

[Explore](#) additional analyzers for energy and chemical applications.

### Need a custom analyzer?

We can help you meet your most challenging demands with specialized technologies that significantly reduce your time from system arrival to final validation. With preconfigured hardware and method-specific separation tools, your analysts can focus on calibration and validation per your lab SOPs.





Complete your GC workflow and achieve your business goals

For more than 50 years, Agilent has led the way with cutting-edge GC and GC/MS consumables and services. No matter where you are on the energy/fuels supply chain, Agilent can help you increase production efficiency, reduce scrap and rework, and enhance product quality.

### When authenticity counts, choose genuine replacement parts for Agilent analyzers

There are many benefits to using genuine Agilent replacement parts, including the minimization of background interference, low signal counts, and response changes. This means you can maintain reliable performance and maximum uptime. And every genuine replacement part is covered by a 90-day warranty from the date of shipment and your Agilent service agreement for added peace of mind.



#### Gas Clean filter for enhanced gas quality

Deliver high-quality gas with the Agilent Gas Clean purification system, preventing column damage, sensitivity loss, and instrument downtime. Replacing the filters when they have reached absorption capacity ensures maximum protection of your GC columns and analytical hardware—a must for high-temperature analysis and longer column lifetime. [Learn more](#)



#### J&W advanced capillary and packed GC columns

We offer the most extensive and innovative range of GC columns for your natural gas analysis needs. Options include a variety of general-purpose and application-optimized columns that meet ASTM testing standards. [Learn more](#)

#### Don't miss a thing in your GC analysis with the Agilent Inert Flow Path

Ensure the inertness of flow path surfaces, and allow analytes to safely pass from injector to detector. The Agilent Inert Flow Path can decrease analyte adsorption for lower limits of detection and better signal-to-noise response, resulting in better trace level analysis. [Learn more](#)



## Flexible service and support options keep your lab up and running

From asset management to applications support and laboratory analytics, Agilent can help you improve operational efficiency.



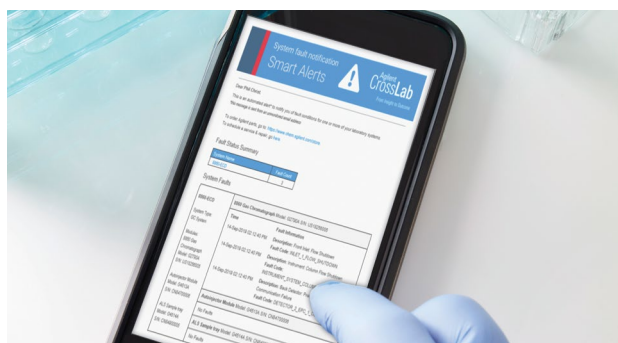
### Agilent University

Flexible, cost-effective training options help you boost efficiency and minimize downtime. Choose the format that suits you best—including in-person, virtual instructor-led, and self-paced online courses. [Learn more](#)



### Agilent CrossLab

Extend uptime, produce reliable data, stay compliant, and have predictable service costs. We'll also equip your team with the knowledge and skills they need to drive your lab's success. [Learn more](#)



### Agilent CrossLab Smart Alerts

Get immediate notification when an instrument goes down, and why it did. Smart Alerts also gives you timely maintenance recommendations and helps you order your favorite consumables. [Learn more](#)



### Agilent Trade-in and Buyback Program\*

Lower your environmental impact—and earn credit toward your new GC instrument. The Agilent Trade-in and Buyback Program lets you trade in your older GC or GC/MS for cash or credit. Agilent will remove the old equipment from your lab and ensure proper recycling. We also offer payment plans and flexible spending options to help you equip your lab with essential technology. [Learn more](#)

\* Not available in all regions



## Need to add new technologies to your lab?

Partner with Agilent to elevate your GC and GC/MS capabilities with step-by-step upgrade options—both full system and modular. Together, we can forge an upgrade path that fits your analytical needs, budget, bench space, and workflow. Count on us for:

- Expert training
- Method consultation
- Sustainability support
- Agilent value promise

**Contact your Agilent representative** for more information.

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