

Assure Composition, Purity, and Calorific Value to Deliver Your Best Product Quality

Agilent Natural Gas Analyzers



Apply the Latest GC Technologies Without Disrupting Your Application Workflow

Natural gas is widely used as an energy source for heating, cooking, generating electricity, and clean-burning combustible engines. This naturally occurring mixture consists primarily of methane. However, it can also include other hydrocarbons (C_1 to C_{12} chain length), along with small amounts of oxygen, nitrogen, carbon dioxide, hydrogen, helium, and sulfur compounds.

Before it can be transported or sold, natural gas must meet specifications for calorific value and purity. Upstream and downstream activities—including exploration, extraction, production, transportation, and distribution—demand testing for hydrocarbons, permanent gases, and impurities.



Agilent 8890 GC system

Agilent 990
Micro GC system

Produce reliable data and maximize product quality with Agilent Natural Gas Analyzers

Agilent Natural Gas Analyzers (NGAs) are based on the Agilent 8890 GC system and Agilent 990 Micro GC system. Each is configured in the factory and chemically tested to help you evaluate the composition of natural gas, natural gas liquids, and processing byproducts.

You can also measure permanent gases and hydrocarbon content (C_1 to C_5 with C_{6+} as backflush), and perform extended analysis of hydrocarbons in natural gas to C_{12} .

Agilent NGAs reflect industry standards and our stringent quality-control process

Each includes:

Factory

- System configuration and leak testing
- Instrument checkout
- Installation of appropriate columns
- Factory-run chemical checkout using application checkout mix

Delivery

- Instrument manual for running the method
- DVD with method parameters and checkout data files for easy operation from the start
- Consumables included—no separate ordering required
- Consumables information for easy reordering

Installation

- Duplicate factory checkout with checkout sample onsite by factory-trained support engineer
- Optional application startup assistance



Intelligent GC instruments that work as hard as you do

Agilent NGAs are part of a new breed of instrument that monitors system health, alerts you to potential issues, and helps 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. Mobile access features let you view setup information, troubleshoot problems, check for leaks, backflush columns, pause and start sample runs, and manage method development.

Generate Reliable Data About Operations and Finished Products

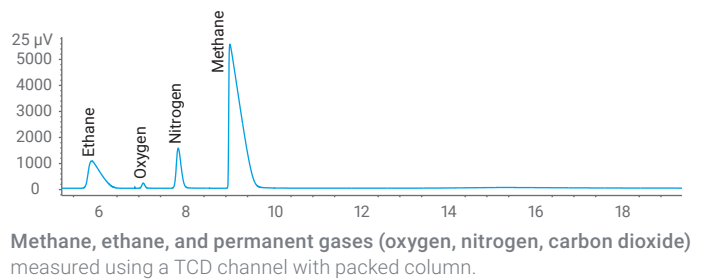
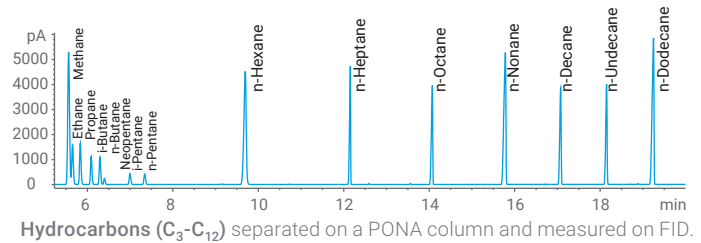


Agilent 8890 Extended NGA: reliably quantify components and ascertain quality

The Agilent Extended NGA measures C₁ to C₁₂ hydrocarbons—as well as permanent gases (oxygen, nitrogen, carbon dioxide, and carbon monoxide).

Features include:

- Dual channel with thermal conductivity detector (TCD) and flame ionization detector (FID)
- FID channel for detecting C₃ to C₁₂
- TCD channel with packed column for permanent gas analysis
- Results are reported per GPA 2286.

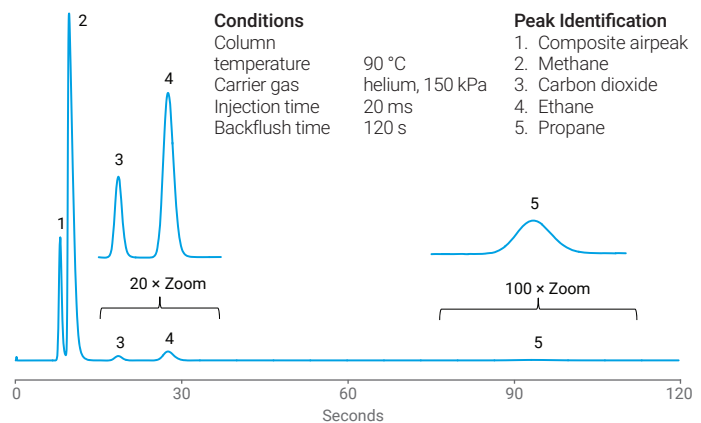


Micro GC NGA: when every second matters

Do you require maximum flexibility and speed? In the lab or in the field, Agilent 990 Micro GC analyzers quickly deliver the data you need.

- Ready-to-go configuration includes proven hardware and software.
- Isothermal technology allows ultrafast sequential operation.
- Optional integrated micro-gasifier gives you the flexibility to analyze liquefied gases.

What's more, each of its four channels is optimized for specific NGA analytes.



990 Micro GC NGA: HayeSep A column with backflush.

Agilent Natural Gas Analyzers Capabilities

Agilent 8890 NGAs

Analyzer	Extended NGA	NGA	2-Channel NGA	GPA 2261 NGA	GPA 2286 NGA
Option number	G3545 #610	G3545 #611	G3545 #612	G3545 # 613	G3545 #615
Valves	3	3	4	3	4
Detectors	TCD/FID	TCD	TCD/TCD	TCD	TCD/FID
Columns	4 (packed and capillary)	4 (packed)	6 (packed)	4 (packed)	3 (packed and capillary)
Analysis time	20 min	18 min	20 min	25 min	40 min
Hydrocarbon range	C ₁ -C ₁₂	C ₁ -C ₅ (C ₆₊ as backflush)	C ₁ -C ₅ (C ₆₊ as backflush)	C ₁ -C ₅ (C ₆₊ as backflush)	C ₁ -C ₁₄
Permanent gases	O ₂ , N ₂ , CO, CO ₂	O ₂ , N ₂ , CO, CO ₂	H ₂ , He, O ₂ , N ₂ , CO, CO ₂	O ₂ , N ₂ , CO, CO ₂ , H ₂ S	O ₂ , N ₂ , CO ₂
Minimum detection level (hydrocarbons)	10 ppm for C ₃ -C ₁₂	100 ppm	100 ppm	100 ppm	50 ppm (C ₁ -C ₅), 10 ppm (C ₅ -C ₆)
Minimum detection level (permanent gases)	50 ppm	100 ppm	100 ppm	100 ppm	100 ppm
Minimum detection level (H ₂ S)	NA	NA	NA	500 ppm	NA
Configured per		ASTM D1945, GPA 2261 (H ₂ and He not included)	ASTM D1945, GPA 2261	ASTM D1945, GPA 2261	GPA 2286

Micro GC analyzers

Analyzer	NGA A	NGA A Extended	NGA B	NGA B Extended
Option number	G3599 #120	G3599 #121	G3599 #122	G3599 #123
Valves	NA	NA	NA	NA
Detectors	μ-TCD (2)	μ-TCD (3)	μ-TCD (2)	μ-TCD (3)
Columns	2 (WCOT and PLOT)	3 (WCOT and PLOT)	2 (WCOT and PLOT)	3 (WCOT and PLOT)
Analysis time	100 seconds until C ₇ 400 seconds until C ₉	100 seconds until C ₁₀ 240 seconds until C ₁₂	75 seconds until C ₆ 400 seconds until C ₉	75 seconds until C ₆ 400 seconds until C ₉
Hydrocarbon range	C ₁ -C ₉	C ₁ -C ₁₂	C ₁ -C ₉	C ₁ -C ₉
Permanent gases	CO ₂ , air	CO ₂ , air	CO ₂ , air, hydrogen sulfide	H ₂ *, He*, CO, CO ₂ , air, hydrogen sulfide, O ₂ , N ₂
Minimum detection level (hydrocarbons)	0.5 ppm	0.5 ppm	0.5 ppm	0.5 ppm
Minimum detection level (permanent gases)	2 ppm	2 ppm	2 ppm	2 ppm
Minimum detection level (H ₂ S)	NA	NA	5 ppm	5 ppm
Configured per	ASTM D3588-98, GPA 2172, ISO 6976, GOST	ASTM D3588-98, GPA 2172, ISO 6976, GOST	ASTM D3588-98, GPA 2172, ISO 6976, GOST	ASTM D3588-98, GPA 2172, ISO 6976, GOST, ASTM D1945, GPA 2261, ISO 6974-6

* Requires argon carrier gas on MolSieve 5 Å channel.

Other standard analyzers:

- Liquefied natural gas
- Sulfur impurities in natural gas
- Conventional natural gas (large valve oven, with the flexibility to add another channel in the main GC oven)

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.

A Complete GC Workflow That Supports Your Business Goals



For more than 50 years, Agilent has led the way with cutting-edge GC and GC/MS instruments, consumables, software, 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.

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.

When authenticity counts, choose genuine replacement parts for Agilent detectors

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.



Newly designed FID jets for easy installation and secure results

Our improved FID jet design increases ease of use by eliminating the possibility of installation damage and providing universal compatibility with both packed and capillary columns. The widened tail diameter simplifies installation without causing damage to the column head, and the etched rings around the jet head provide quick identification. Even more, the shortened jet tail is universally compatible—reducing your part number count from 12 to 4.



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.



Gold seals for accurate sample transfer

Enhance your system's inertness with Agilent Certified Gold Seals. They form a leak-free seal with the bottom of the inlet body and column ferrule to minimize sample contamination and loss. Additional benefits include improved signal-to-noise ratio, decreased column bleed, and the extension of column life.

Ordering Information

Description	Part Number
FID jet, universal fit, 0.011-inch id, 0 rings: Optimal sensitivity for standard GC/FID analysis	5200-0176
FID jet, universal fit, 0.018-inch id, 1 ring: For high-temperature applications; allows buildup of column bleed while providing an opening	5200-0177
FID jet, universal fit, 0.030-inch id, 2 rings: For specific high-temperature methods (such as simulated distillation) only	5200-0178
Gas Clean kit for 8890 and 8860 GC	CP179880
Replacement Gas Clean filter carrier gas	CP17973
GC inlet seal, gold plated with washer, 10/pk	5190-2209
GC inlet seal, gold plated with washer, Ultra Inert, 10/pk	5190-6145

Flexible service and support options keep your lab up and running

From asset management to applications support to 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 training format that suits you best—including in person, virtual, and online.



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.



Agilent CrossLab Smart Alerts

Get immediate notification when an instrument goes down, and why. Smart Alerts also gives you timely maintenance recommendations and helps you order your favorite consumables.

Capture, analyze, and share data



OpenLab CDS is a chromatography data system that combines productivity, usability, and data integrity. With a single user interface, you can control your Agilent LC, GC, single quadrupole LC/MS, and GC/MS, as well as other vendors' instruments in the lab, to streamline training and support.

Built-in tools provide time-saving steps in the analysis, interpretation, and reporting workflows while technical controls ensure work quality, effective records management, and enhanced data security. OpenLab CDS is ideal for analytical labs that need the highest level of data integrity.

Learn more about how Agilent GC solutions can optimize your workflow. www.agilent.com/chem/gc

Agilent CrossLab: Supporting Your Success

CrossLab is an Agilent capability that integrates services and consumables to support workflow success, improve productivity, and enhance operational efficiency. In every interaction, we strive to provide insight that help you achieve your goals. We offer a wide range of products and services—from method optimization and training to full-lab relocations and operations analytics—to help you manage your instruments and your lab for best performance.

Learn more about CrossLab at www.agilent.com/crosslab



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