

Agilent 7820A GC System

THE EASY CHOICE FOR ROUTINE ANALYSES

The Measure of Confidence



Agilent Technologies

Introducing the Agilent 7820A GC System

Day after day reliability, day after day value

Is your lab looking for better, more reproducible results for all your standard GC analyses, run after run and day after day? Are you looking for proven quality in an affordable solution that maximizes uptime, minimizes maintenance, and provides the highest return on your investment? Here's exactly what you've been looking for: the 7820A GC System from Agilent.



Agilent's affordable 7820A GC delivers the reliability you are looking for and performance you can count on – run after run, day after day.

Consistent, dependable results

The 7820A GC offers uncompromising GC performance for all your routine applications – including those that must comply with regulatory requirements. Agilent's proven electronic pneumatic control (EPC) and digital electronics ensure excellent reproducibility, as well as reliable accuracy and precision.

Easy to learn and use – for all users

With an intuitive user interface and “minimalist” 5-button keypad, the 7820A GC is very easy to operate, even for inexperienced or infrequent users. Because there are no gauges or manual gas knobs, errors are minimized. And with convenient, real-world design features and built-in self-diagnostics, the 7820A GC is also easy to maintain.

Lab-proven quality and long-life Agilent reliability

Why settle for “good enough,” when you can invest in quality? With a heritage of more than 40 years of GC leadership, Agilent has earned a worldwide reputation for reliability and uptime under the most demanding operating conditions.

Flexible automatic injection choices for even better repeatability and higher productivity

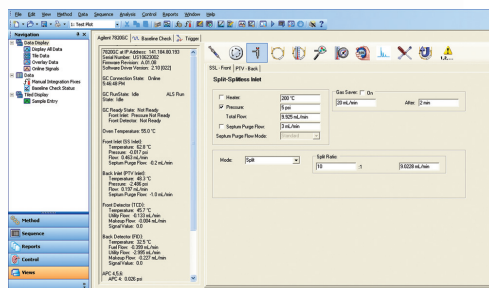
With an Agilent 7650A or 7693A Injection Tower, you can eliminate the variables of manual injection, and increase your lab's throughput, too. With a capacity of up to sixteen 2 mL samples, this optional accessory offers unprecedented sample handling flexibility, and allows fully unattended operation – from injection all the way through final reporting.

An easy choice for labs like yours

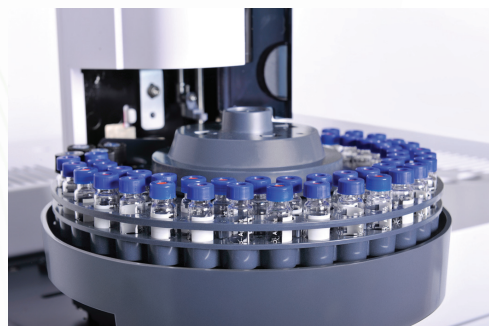
Now any lab can take advantage of Agilent's unmatched combination of reliable instrumentation, versatile software and application-matched columns and supplies. This robust GC solution is designed to optimize routine performance, while minimizing complexity. And because it's from Agilent, it gives you the proven quality you expect from the GC industry leader, in an easy to own, compact package.



Simple 5-button keypad minimizes the chance of operator errors.



Proven OpenLAB CDS software platform – running in chromatography labs around the world – makes it easy for all users to set up and operate the 7820A GC system. (Shown is a 7820A GC method creation screen.)

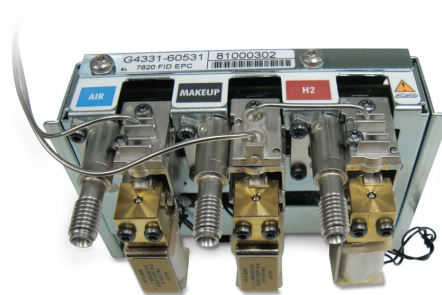


To learn more about the Agilent 7820A GC System, visit www.agilent.com/chem/7820A

Simplified operation and extra versatility help you get more done, every day

For maximum reliability and trouble-free operation under all conditions, the 7820A GC takes advantage of many of the engineering features and technology incorporated in Agilent's industry-leading GC portfolio.

For example, full electronic pneumatics control (EPC) – on all inlets and the detectors – ensures a better repeatability of retention times and peak areas. By setting gas flows via the software, you can now save all of the important parameters of your method. Digital electronics keep your set points constant from run to run, and operator to operator. So you get better retention time repeatability, more consistent results, and less rework.



Electronic Pneumatic Control (EPC)
module for the 7820A GC.

Standard high precision inlets

- Split/splitless (SSL) for large bore and all capillary columns
- Packed purged injection port (PPIP) for wide bore capillary and packed columns

Automatic valve control

For chemical and hydrocarbon processing applications, the 7820A GC system can automatically control up to two heated valves.

Retention time and area repeatability split/splitless inlet and FID				
Compound	Retention Time (min)		Peak area (pA)	
	24 °C	30 °C	24 °C	30 °C
C13	3.7843	3.7820	45.2143	44.5105
C14	4.4213	4.4190	45.5790	44.8429
C15	5.0369	5.0344	457.8670	449.3625
C16	5.6238	5.6211	456.6820	449.5554

Retention time and area count changes are minimal – even as lab temperatures change throughout the day.

High-sensitivity Agilent detectors for every sample type

Flame ionization detector (FID) – Wide dynamic response range enhances accuracy and minimizes sample prep requirements for samples that contain very high or very low compound concentrations.

Nitrogen-phosphorus detectors (NPD) – Offers superior sensitivity and selectivity for nitrogen- or phosphorus-containing compounds, such as pesticide residues in food and environmental samples.

Thermal conductivity detector (TCD) – Single-filament design provides lower noise and higher sensitivity for general purpose applications.

Electron capture detector (micro-ECD)* – Combines unprecedented sensitivity and linearity with ruggedness and reliability – an ideal choice if your lab is analyzing halogenated organic compounds such as pesticides, PCBs, and chlorinated solvents.

Single Wavelength Flame Photometric Detector (FPD) – High sensitivity detector specifically for sulphur or phosphorus containing compounds in food, environmental, or petrochemical samples.

** Not available in Japan.*

Flexible software choices

Made to fit your application, workflow, and budget – perfectly

Choose between user-friendly OpenLAB CDS ChemStation Edition and OpenLAB CDS EZChrom Edition with multi-vendor control. Everything is designed to help you make the most of every run, and every workday.

Agilent OpenLAB CDS EZChrom Compact: Your most economical choice for routine analysis and report

OpenLAB CDS EZChrom Compact gives you:

- Total control of a maximum of two instruments – including 7820A GC, 6820 GC, 490 MicroGC, and Agilent 1220 Infinity LC, from one PC.
- Quick access to your most common tasks
- Pre-defined reports and built-in templates for customized report layouts
- The ability to upgrade to OpenLAB CDS EZChrom when your needs change

OpenLAB CDS EZChrom Compact lets you view instrument status, current data, and run queue on a single screen.

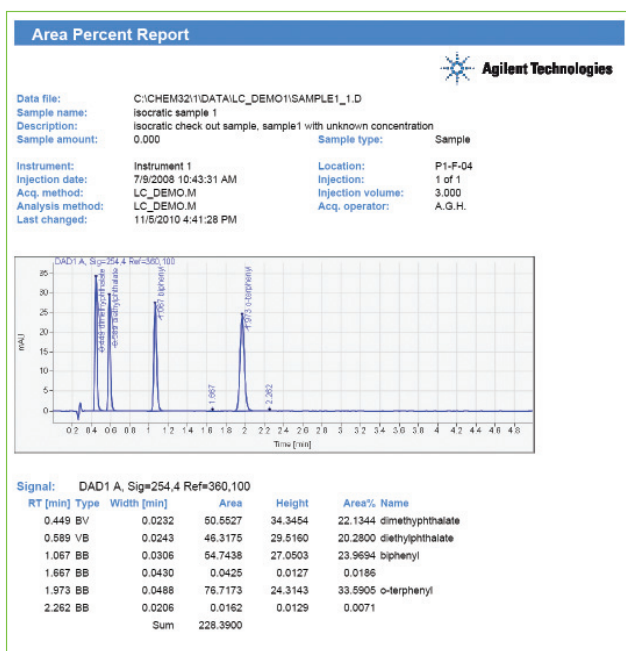
Agilent OpenLAB CDS VL: Your choice for value

OpenLAB CDS VL gives you the choice between the ChemStation Edition and the EZChrom Edition. Both provide a fully functional OpenLAB CDS workstation for the control of your 7820A GC.

Agilent OpenLAB CDS Full Version: Your comprehensive choice for instrument control

OpenLAB CDS ChemStation Edition provides full control of a whole range of Agilent instruments (LC, GC, CE, LC/MS, and CE/MS). OpenLAB CDS EZChrom Edition provides multi-vendor instrument control. In addition to the workstation configuration, networked and distributed systems are also available for remote monitoring and remote access of your instruments.

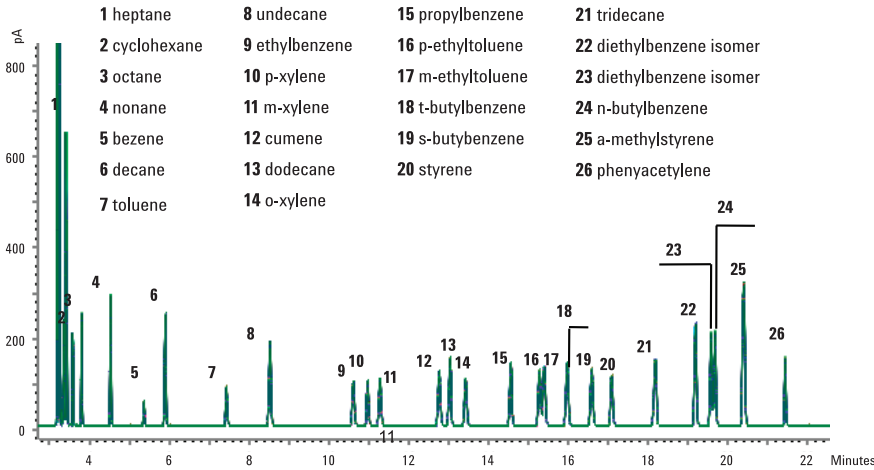
In contrast to OpenLAB CDS VL, OpenLAB CDS ChemStation and EZChrom Editions provide control of the Agilent Headspace Sampler(s). They also provide the option to integrate with OpenLAB ECM for central data storage, GLP, and compliance features.



To learn more about the Agilent GC and GC/MS portfolio, visit www.agilent.com/chem/7820A

The uncompromising performance you expect from an industry leader

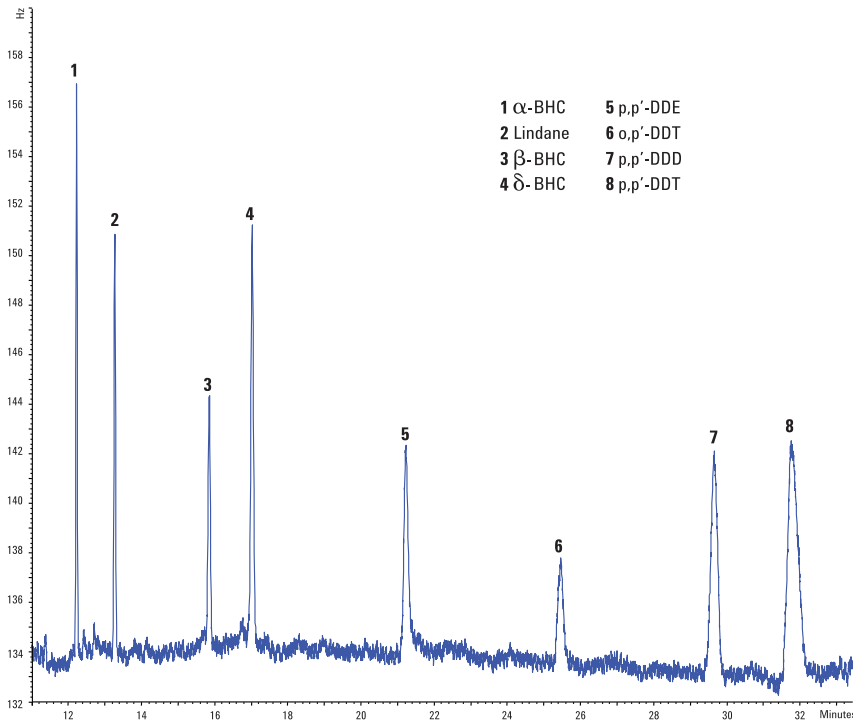
The 7820A GC offers performance you can depend on for all your routine analyses: outstanding sensitivity, reproducibility, accuracy, and precision. Exactly what you look for – and what you know you'll find – in every Agilent analytical solution.



Overlay of 10 runs demonstrates the 7820A system's outstanding repeatability.

FID analysis for aromatic solvent.

An easy-to-use, single-column, method for aromatic solvent purity analysis meets the requirements of ten separate ASTM methods. EPC control and automatic injection ensures excellent repeatability for both retention time and peak area. In a single run, the wide dynamic response range of the flame ionization detector (FID) enables quantitative analysis of samples containing both very high and very low concentrations.



Chromatogram of 500 ppt organochlorine pesticides run on Agilent 7820A GC with ECD.

Trace pesticides in drinking water.

The high sensitivity of the micro-ECD ensures confident detection, easily meeting stringent requirements of international regulatory agencies. The micro-ECD's reduced susceptibility to contamination allows analyses in a variety of complex matrices. In this example, using nitrogen in place of helium as the carrier gas dramatically reduces cost per sample.

Agilent 7667A Mini Thermal Desorber

Perform fast, confident gas sample introduction in the lab

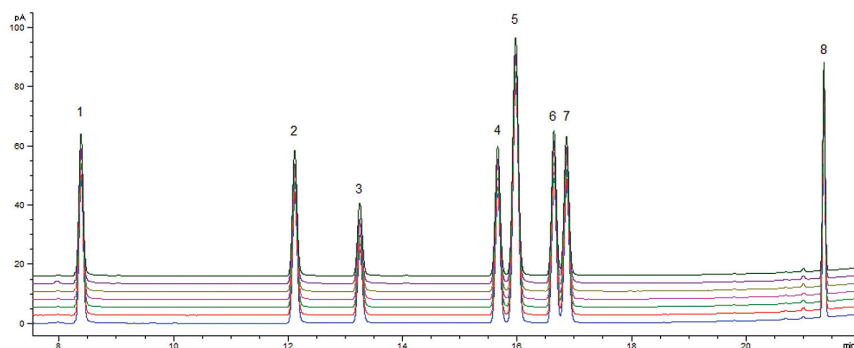
With its small bench space and intuitive software, Agilent's 7667A Mini TD is designed for true ease-of-use – making it ideal for entry level VOCs test applications such as GB50325 indoor air quality testing. Additional benefits include:

- **Reduced cycle time** and completion of one GB50325 VOC task *in less than 10 minutes* with on-tube heating rates up to 500 °C per minute.

- **Ensures performance** with automatic self-leaking test – even in rough environments.
- **Easy operation** with OpenLAB ChemStation or EzChrom and MassHunter.

What's more, Agilent's 7667A Mini TD is the first thermal desorber developed *by Agilent*, so it is based on a thorough understanding of how a GC lab performs.

#	Compounds	R.T. (min)	Linearity (r ²)	Area RSD (%)	R.T. RSD (%)
1	Benzene	8.37	0.9999	1.96	0.023
2	Toluene	12.11	0.9999	1.51	0.021
3	Butyl acetate	13.25	0.9998	2.61	0.010
4	Ethylbenzene	15.65	0.9999	1.45	0.014
5	m/p-xylene	15.96	0.9999	1.24	0.012
6	Styrene	16.63	0.9999	1.62	0.010
7	o-xylene	16.85	0.9999	1.51	0.009
8	C11	21.37	0.9997	1.14	0.003

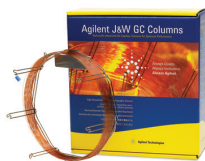


Overlapped chromatograms of seven runs with 500-ng standards desorption (5991-1536EN Determination of Total Volatile Organic Compounds in Indoor Air Using Agilent 7667A mini TD and 7820A GC).

To learn more about the Agilent GC and GC/MS portfolio, visit www.agilent.com/chem/7820A

Agilent J&W GC capillary columns and supplies: consistent performance and reliability

You can be confident that Agilent J&W GC columns will provide a leak-free, inert flow path for optimal signal-to-noise performance. They are engineered to deliver the lowest column bleed, the highest column inertness, and the tightest column-to-column reproducibility.



Maximize your uptime with built-in service and support features

The 7820A GC system's integrated hardware and software simplify your operations with features such as a guided system set-up that helps get you up and running without a visit by an Agilent service representative. And of course, Agilent's world-class customer service engineers and certified support partners are available to provide installation, familiarization, training, maintenance, contractual repair, and compliance services.

Enterprise Compliance Services provide robust, fully integrated qualification

Agilent's Enterprise Edition is a single, comprehensive qualification protocol which includes uniformly configured electronic reports, records, and signatures to help speed compliance reviews and minimize your regulatory risk.



The Agilent Value Promise – 10 years of guaranteed value

In addition to continually evolving products, we offer something else unique to the industry – our 10-year value guarantee. The Agilent Value Promise guarantees you at least 10 years of instrument use from your date of purchase, or we will credit you with the residual value of that system toward an upgraded model.

The Agilent Service Guarantee

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.



For more information

Learn more:

www.agilent.com/chem/7820A

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