

Inject New Performance into Your Gas Chromatography

Agilent 7693A automatic liquid sampler





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A Powerful Combination of Productivity and Flexibility

It is no surprise that GC and GC/MS precision begins with the autosampler. What can be a surprise is what an autosampler can do for your analyses. With over 50 years of GC leadership, Agilent builds on basic injections to provide innovative autosampler capabilities, delivering useful method performance enhancements.

The Agilent 7693A automatic liquid sampler (ALS) takes advantage of today's latest technology to deliver even greater reliability, performance, and flexibility. It provides sample preparation capabilities and a wide range of injection techniques for a wide range of sample types.



Whether you have hundreds of samples to analyze, or just a few, the 7693A ALS gives you sample handling and injection capabilities that are best in class.

Enhanced performance and productivity

From small-volume injection, to large-volume injection, to multi-layer sampling, the 7693A ALS can help you process samples more quickly—and get better data, too.

Agilent's dual simultaneous injection feature saves time by doubling your sample throughput. And our fast-injection technology minimizes needle discrimination and sample degradation. It also ensures the best possible peak shape, while maximizing the accuracy of your results.

Unmatched flexibility

No built-in autosampler can match the flexibility you get with the 7693A ALS. The system's modular design works seamlessly with 6890, 7820, 7890, 8860, 8890, and Intuvo 9000 GC systems.*

What's more, the 7693A ALS adapts easily to your lab's changing needs. For example, you could start with a basic injector equipped with a 16-sample turret; later, you could add a second injector, a 150-sample tray, and a vial heater/mixer/barcode reader.

Maximum uptime

The self-aligning plug-and-play injector mounts in seconds without tools, and can easily be moved from one inlet to another—or transferred between GCs when workloads change. Its lightweight, removable design also permits easy inlet maintenance.

In addition, greater solvent capacity (>20 mL), plus the ability to load up to 150 samples, means longer unattended operation. Solvent-saver mode will increase your capacity even more. And built-in Agilent reliability gives you the confidence to run the system day and night with minimal operator attention—and without the need for calibration or adjustment.

*6890A/6890+/7820 requires optional controller.



Sample capacity to meet any requirement

With its expanded 16-vial turret, the standard configuration of the 7693A provides up to 8 hours of analysis. Need more capacity? The 150-vial tray is up to the task.

Active gripper

Active grippers hold each vial by its sides for greater flexibility in handling a wider range of vials and caps. Sensors also detect whether or not a vial has been grasped.

A choice of injection modes

Agilent's fast injection enhances chromatographic results by ensuring minimal needle discrimination and sample decomposition. Plunger speed can be precisely regulated, enabling true optimization for large-volume injections or challenging applications.

Heater/mixer/barcode reader

An optional heater/mixer/barcode reader and second injector can be used to prepare highly viscous or slightly soluble samples, as well as for dilution, mixing, derivatization, and barcoded sample tracking. All functions are controlled via easy-to-use software.

Next sample overlap support

Decrease your analysis time and increase throughput by performing pre-run rinses and picking up the next sample before the current run is complete.

Modular design for easy service and support

Should service be required, repair options include returning the system to Agilent for quick exchange or repair. Onsite repair is also available, depending on your lab's needs.



Agilent 7693A automatic liquid sampler

The Better the Injection, the Better the Chromatography

Like its predecessor, the Agilent 7693A has been engineered for maximum performance and reliability while providing added flexibility to meet your lab's changing requirements.

Three modular sections suit your current—and evolving—needs





Heater/mixer/barcode reader

To give you even more sample handling capabilities, an optional module allows heating, mixing, and barcode reading of samples immediately prior to injection.

In addition, our new barcode label printing bundle lets you print easy-to-read barcode labels right from a spreadsheet or database—minimizing typos and ensuring accurate sample ID and tracking. The bundle comes complete with printer, software, templates, and labels.

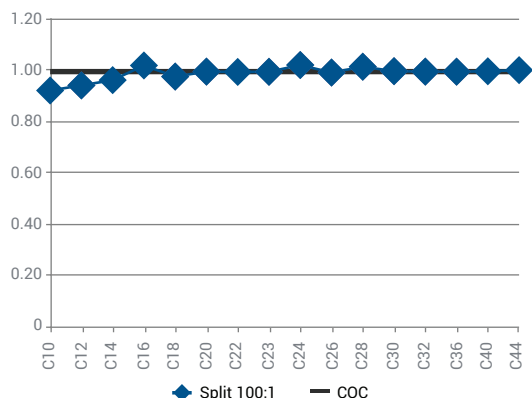
Sample tray

This unique vial handling system uses three separate 50-vial racks for a total capacity of 150 samples. A full tray heater/cooler is also available, along with a separately supplied recirculating temperature bath.

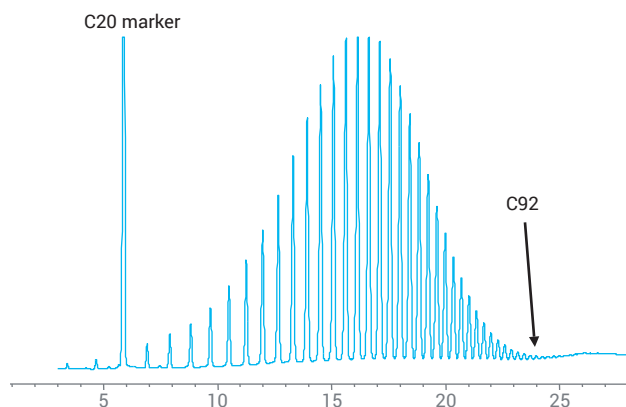
Injection tower

Automate the analyses of up to 16 samples with a capacity for two solvent bottles and one waste bottle. When combined with the vial tray, the injection tower can hold 10 solvent vials and five waste vials, as well as three sample vial transfer positions—giving the system unprecedented sample handling flexibility.

Agilent exclusive fast injection—under 100 milliseconds!



Agilent's 100-millisecond injection eliminates a major source of sample discrimination and ensures that your injections are as representative of the sample as possible. Fast injection also simplifies quantitation by enabling the use of external standards.



Preparation and run of high temperature SIMDIS calibration standard **Polywax 655**. The optional single-vial heater/mixer/barcode reader lets you automatically heat samples up to 80 °C and mix them prior to injection, significantly improving high molecular weight performance and chromatographic results.

Best-in-class precision

Carbon	Split Area % RSD	Splitless Area % RSD	On Column Area % RSD
10	0.20	0.26	0.33
12	0.20	0.27	0.36
14	0.20	0.27	0.40
16	0.21	0.30	0.41
18	0.23	0.28	0.27
20	0.25	0.28	0.41
22	0.28	0.28	0.41
24	0.30	0.28	0.42
32	0.39	0.30	0.41
36	0.29	0.35	0.41
40	0.34	0.27	0.42
44	0.27	0.33	0.42

Table refers to results of ten 1 µL injections.

Whether you're detecting emerging contaminants in drinking water or testing drugs for purity, your results have to be precise and irrefutable. And the 7693A helps to ensure your best chromatography with the following advanced injection features.

- Multiple wash solvent capability for pre- and post-injection needle rinsing reduces sample carryover.
- Pre-injection sample pumps and pre-injection washes further reduce the possibility of carryover.
- Sample trays are mounted away from the GC oven to prevent exposure to high temperatures that could cause degradation or condensation in the sample vial.
- Single stroke injection volume, as small as 0.01 µL and as large as 250 µL, lets you precisely match injections to the exact needs of your analyses.
- Agilent syringes, engineered for longer plunger lifetime, reduce carryover and increase accuracy over a wider range of injection volumes.
- Advanced automation capabilities eliminate sources of GC operator variability and human error to minimize rework.

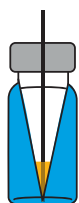
Pre-injection Sample Handling Saves Steps, Boosts Productivity

In addition to conventional and fast injection modes, the 7693A autosampler offers pre-injection sample handling capabilities that can further enhance your lab's flexibility, productivity, and performance. Ideal for routine sample handling in a wide range of industries and applications—including forensics, food, and environmental analysis—this can eliminate or minimize separate sample prep work, saving both time and resources.

The addition of a second injection tower, optional heater/mixer/barcode reader, and easy-to-use Agilent software gives you the flexibility to optimize for performance, cost-efficiency, or unique analytical requirements. For example, you can add a derivatization agent—or heat the sample vial, add a second solvent, mix it, and inject into the system—all automatically!



Liquid/liquid extraction



Small-volume sampling



Reagent and standard addition



Dilution/aliquoting/reconstitution



Heating/mixing



Barcode reading

Extended sampling flexibility and automation options. Variable needle depths allow you to sample anywhere within the vial, while optional sample handling capabilities further enhance your productivity.

Case study:

How advanced automation capabilities minimized analyst-to-analyst variability, accelerated sample prep, and reduced rework

The problem:

Analyzing free and total glycerin in biodiesel¹ involves complicated, time-consuming sample preparation—plus five multi-component calibration solutions, two internal standards, and a derivatization step. Person-to-person variability is also a concern, because several bench chemists must run this analysis.

One lab's solution:

The lab team used the built-in capabilities of the 7693A to automate the preparation of calibration standards, standards addition, derivatization, and sample injection.

The benefits were immediate and dramatic:

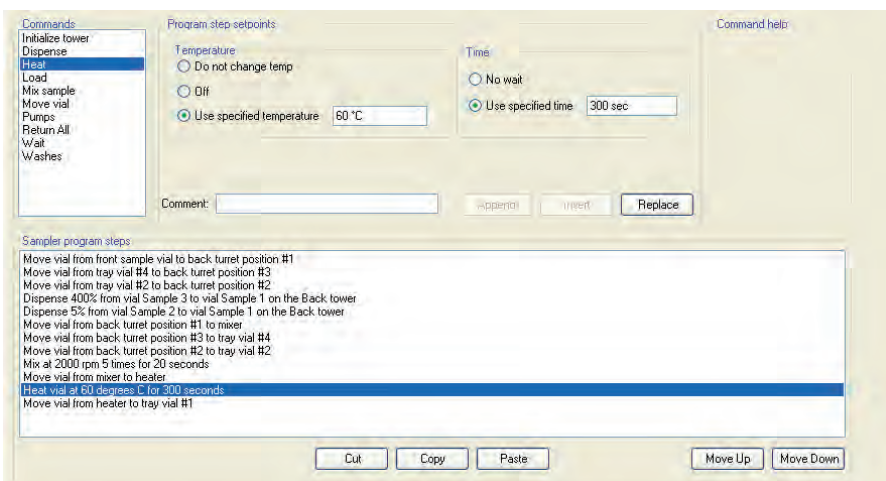
No more analyst-to-analyst variability, shorter analysis times, and a 90% reduction in solvent and waste costs. Operator exposure to harmful reagents was also minimized, and rework became a thing of the past.

¹ 5990-3781EN: Automated Standard and Sample Preparation for Multiple Gas Chromatographic Analyses of Biodiesel

Easy, Intuitive Sample Handling Software

Agilent gives you **two** software options that allow you to quickly create powerful, custom sample handling routines for virtually any application.

Menu-driven sample prep

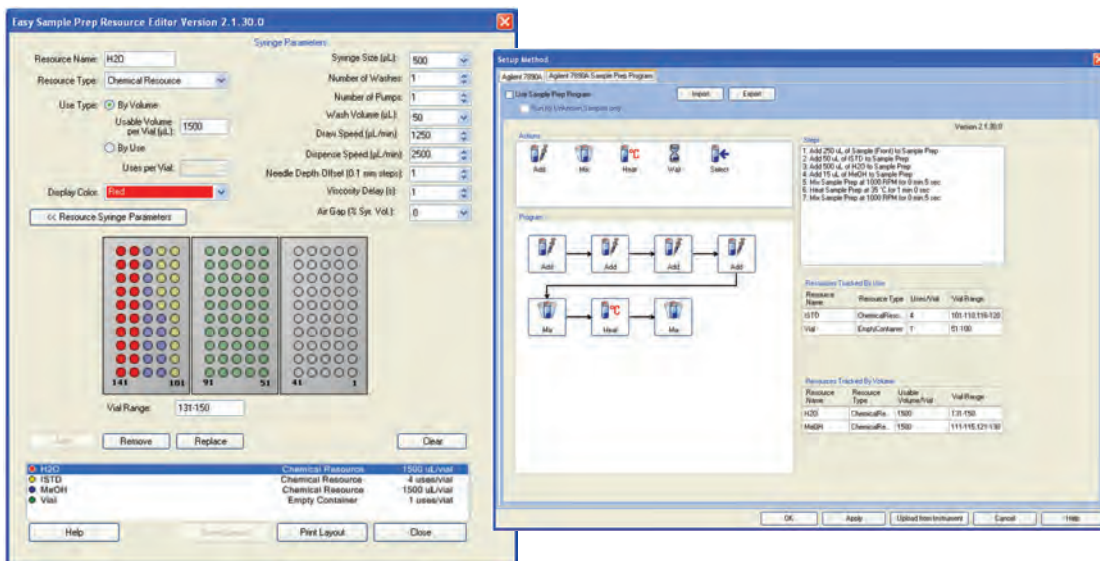


Menu-driven sample prep software

Agilent's standard software utility allows you to take full advantage of the advanced injection and sample handling capabilities of the 7693A autosampler. Intuitive drop-down menus and online help guide you through the process from start to finish.

This standard interface can be used with GC ChemStation and EZChrom, as well as MSD ChemStation and MassHunter platforms.

Easy SamplePrep—drag-and-drop simplicity



Easy SamplePrep software, available with OpenLab CDS, allows color-coded resource identification and tracking. Easy SamplePrep software may be included in your hardware purchase. Please check with your Agilent representative.

Drag-and-drop simplicity: Easy SamplePrep makes it easy to create custom sample prep programs with basic steps such as "Add, Mix, Heat, and Wait."

Real Labs, Real Results

Agilent vials, caps, and syringes ensure maximum uptime and peak performance

Designed to complement your Agilent 7693A automatic liquid sampler, our certified vials, caps, syringes, and other ALS supplies are engineered to give you the consistent results you expect from Agilent instruments.

Through our opto-electronic screening system, every single vial and cap is checked and those that are not within specs are rejected.

Our certified vials and caps are *guaranteed* to work on Agilent autosamplers, saving you the expense of replacing broken or misaligned vials that often result when using competitor vials.

Choose from a broad selection of premium, high-purity septa screw cap vials, trays, labels, cold/hot trays, large-volume injection carriages, and electronic crimpers. We also offer premium syringes—available in a wide range of sizes, including 500 μL —that increase service life, reduce carryover, and improve accuracy.

Learn how the correct vials, caps, and septa can improve lab productivity:

www.agilent.com/chem/vials-productivity

Agilent GC supplies help keep routine maintenance routine

Our capillary column ferrules, O-rings, and septa are packaged to remain clean and ready to use. An exclusive non-stick plasma coating on our premium inlet septa and pre-cleaned O-rings simplifies maintenance and eliminates downtime caused by inlet surface residue. The coating also shortens bakeout times after preventive maintenance, so you can start running samples sooner.



Agilent portable electronic crimper decapper



Agilent
CrossLab
From Insight to Outcome

CrossLab is an Agilent capability that integrates services, consumables, and lab-wide resource management. So your lab can improve efficiency, optimize operations, increase instrument uptime, develop user skill, and more. Ask us how we can support your lab today.

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