HEWLETT® PACKARD

Raising the Standard for GC Performance. It's Time.

HP 7683 Automatic Liquid Sampler

Unmatched Flexibility, Reproducibility, and Reliability

The HP 7683 Automatic Liquid Sampler raises the standard for gas chromatography (GC) system performance and reliability.

This next-generation Hewlett-Packard automatic liquid sampler for the HP 6890 Plus gas chromatography system offers all the features of our popular HP 7673 Automatic Liquid Sampler *and more*—but in a smaller, more compact, more rugged package.

This is the automatic sampler to have for:

- Accuracy and ease of use
- Superior reproducibility, with minimal rework
- Easy accommodation to changing needs
- Optimum injection flexibility
- Enduring reliability

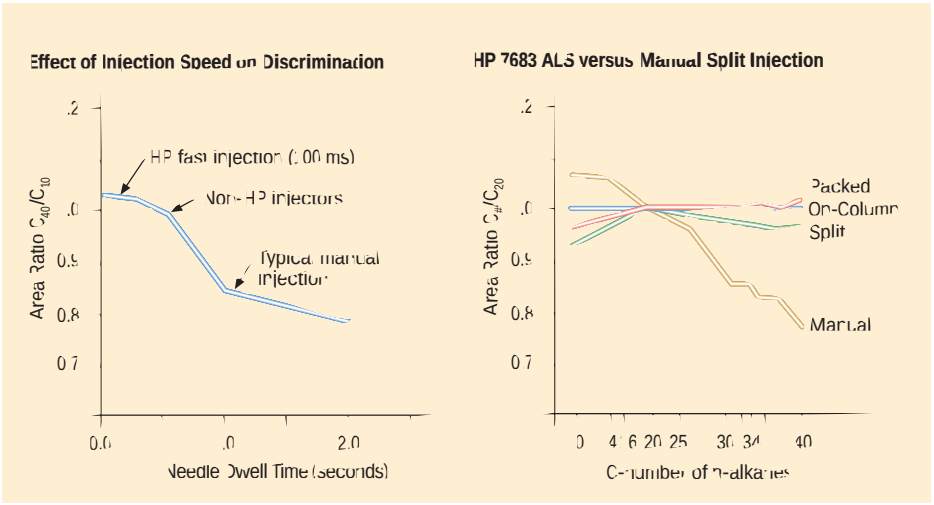
The Fastest Injection Speed in the Industry, for Accuracy with Ease

The HP 7683 Automatic Liquid Sampler (ALS) delivers the fastest injection speed in the industry—five times faster than any other automatic liquid sampler on the market. Fast injection, pioneered by Hewlett-Packard, minimizes needle discrimination without introducing the complexity and large solvent volumes of sandwich injection and other injection techniques.

This reduces background interference, which means that you get better results with less rework. And your operating costs are lower. Furthermore, you prolong the life of your columns.

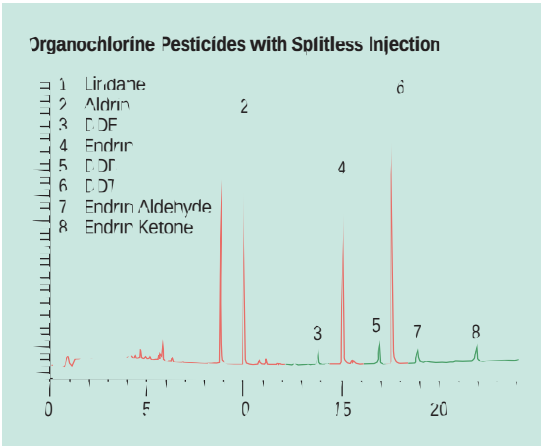
Fast injection also simplifies quantitation by enabling the use of external standards.

A nanoliter injection mode lets you introduce a sample as small as 0.1 µL—a critical capability for fast GC when using 0.1 mm capillary columns.



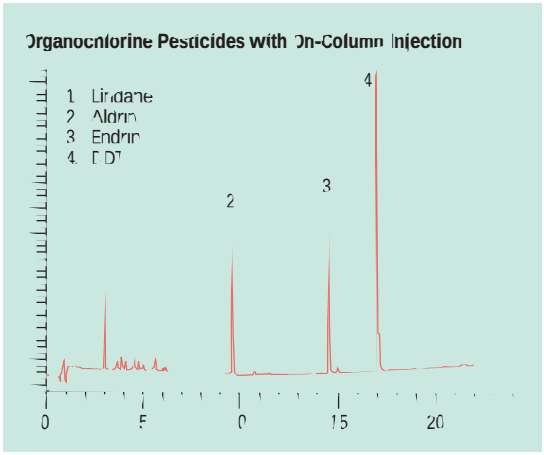
▲ No Needle Discrimination

100-millisecond fast injection eliminates a major source of sample discrimination and improves peak area reproducibility.



▶ Unmatched Precision

Automated direct cool on-column injection into 320-µm and 250-µm columns eliminates the thermal degradation products (peaks 3, 5, 7, and 8) seen in the upper chromatogram. No one else offers the precision required to inject directly into such small inner diameter columns.



Reproducibility that Minimizes Rework—for Increased Revenues

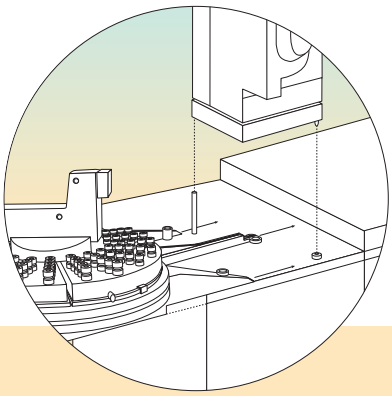
The HP 7683 ALS was designed for uncompromising reproducibility. Two wash solvents for pre- and post-injection needle rinsing virtually eliminate any chance of sample carryover.

Just to be sure, pre-injection sample washes further reduce the possibility of carryover. Plus pre-injection sample pumps ensure accurate injection volumes.

And there's still more. The 100-sample tray mounts away from the GC oven to prevent exposure of the samples to high temperatures and temperature cycles that can degrade thermally-sensitive samples or cause condensation in the vial. Moreover, individual quadrants on the tray can be cooled to sub-ambient temperatures to protect sensitive samples even further.

A Modular Design that Accommodates Changing Work Loads

The HP 7683 ALS has a modular design, giving you options you cannot get with a built-in automatic liquid sampler. *You* decide how much automation you need and can afford.

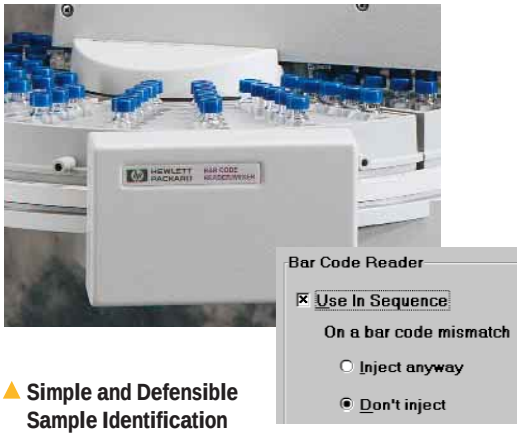


Fast and Easy Sampler Installation

The modular design of the HP 7683 ALS lets you optimize the benefits—and cost—of automation by moving the autoinjector from one inlet to another or by allowing fast and easy transfer of sampler modules from one GC to another. The lightweight, self-aligning injector mounts in seconds; no tools are needed. The modular design also permits easy inlet maintenance and fast, inexpensive repair, if necessary. Your system can be up and running day and night, without the need for calibration or adjustment, to keep your revenues high.

◀ Gradual Expansion As Needs Change

You can start with an HP 7683 autoinjector with an eight-sample turret, then progress to a second injector, a 100-sample tray, and a bar code reader. The tray and mounting bracket are one assembly, allowing easy transfer to another GC when work loads change.



▲ Simple and Defensible Sample Identification

A sample identification module electronically transfers a bar code reading of each sample to the HP ChemStation or integrator, ensuring positive sample identification for defensible results and compliance with Good Laboratory Practice (GLP). The sample identification module recognizes a variety of industry-standard bar code symbols.

▶ Maximum Throughput

Dual simultaneous injection doubles sample throughput, saving analysis time and reducing capital and maintenance costs.

ACCURACY

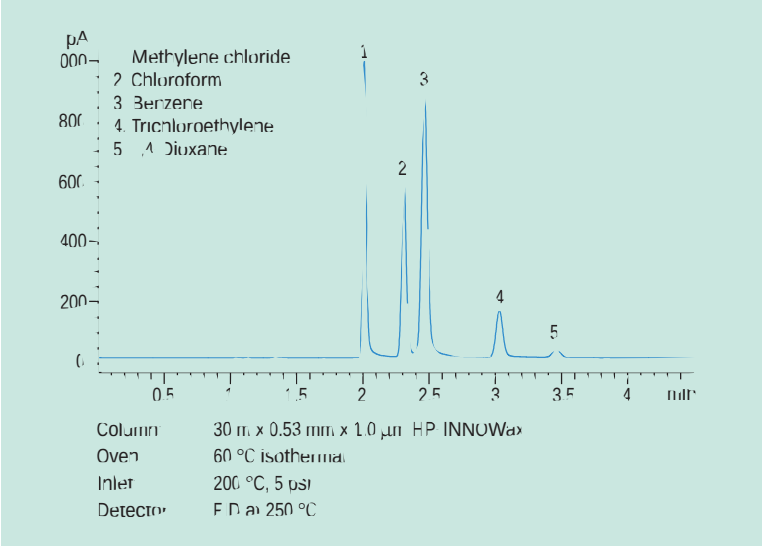
PERFORMANCE

Flexibility Second to None

The HP 7683 ALS offers various options to suit your current and future needs. You have the choice of:

- Normal, on-column, or multiple-injections.
- Fast injection for no needle discrimination, slow injection to emulate manual techniques, or large-volume injection for increased sensitivity.
- Injections from 0.1 µL to 50 µL or more with multiple injections.
- Variable pre- and post-injection dwell times to match manual injections or to allow large-volume injection into a cool on-column inlet.
- Variable sampling depth.
- Ambient headspace sampling inside a vial, minimizing sample preparation.
- Priority sampling.

And methods developed using the HP 7673 ALS are seamlessly transferred to the HP 7683 ALS.

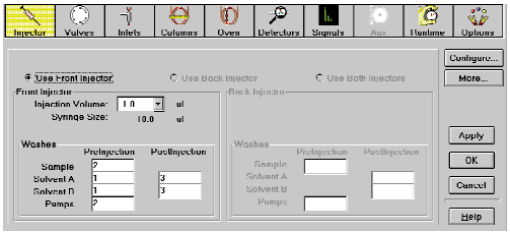


Ambient Headspace Analysis

Ambient headspace analysis eliminates sample preparation. The HP 7683 autoinjector can sample up to 50 µL of the head space in a 2-mL vial. This simple, inexpensive technique can be used as a quick screening tool. You also achieve high throughput because there are no adsorption and desorption steps, as in solid phase microextraction (SPME). And with no hardware modifications needed, switching between headspace and liquid injection is virtually instantaneous.

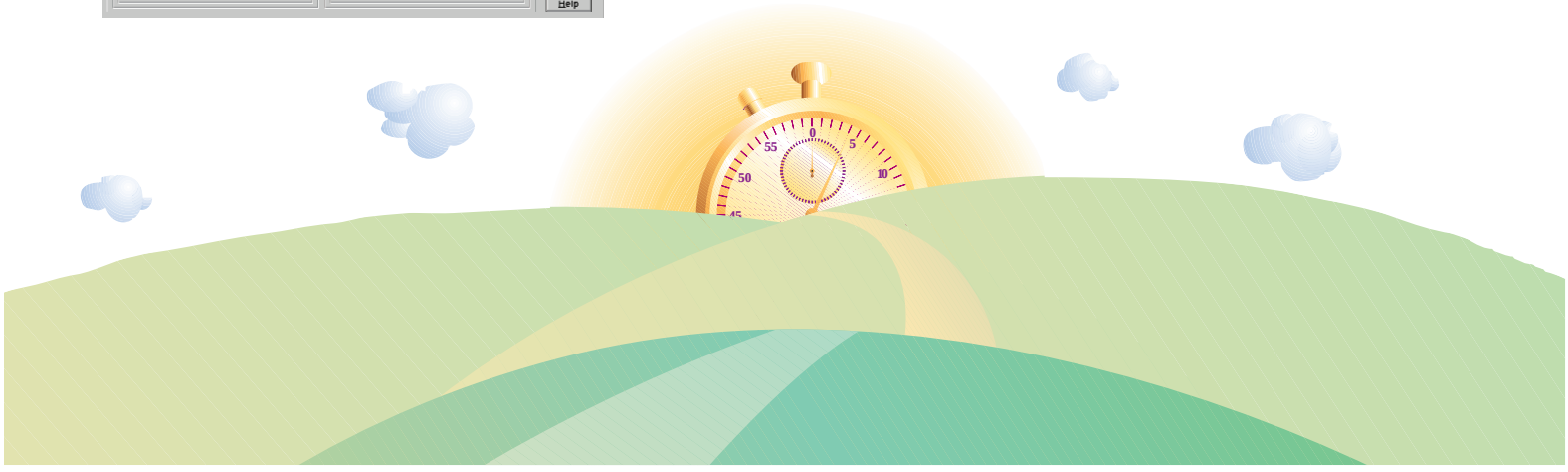
Multiple Control Options

Various control options include the HP 6890 Plus GC keyboard, the HP ChemStation, and an HP integrator.

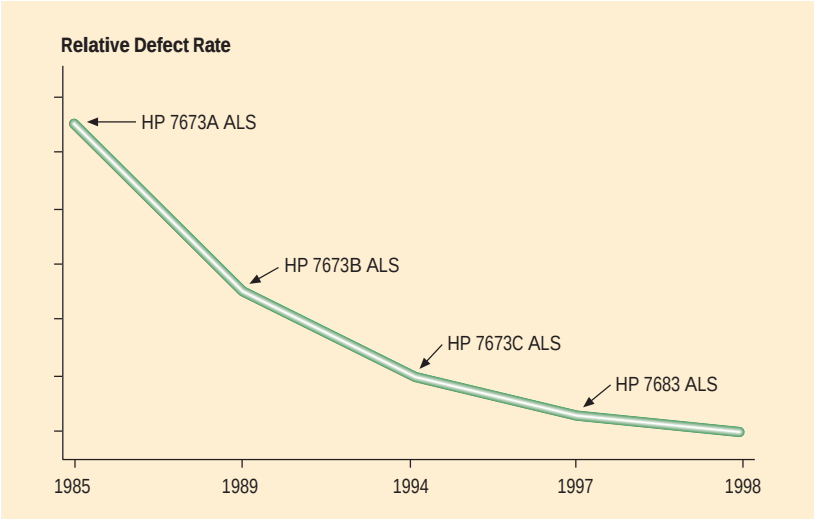


Sampling Flexibility

Variable needle depths give you the option of sampling anywhere within the vial. When combined with the HP bar code reader/mixer, the HP 7683 ALS can perform automated liquid/liquid extraction to minimize manual sample preparation.



The HP 7683 Automatic Liquid Sampler eliminates a controller module and external power supply. The injector, tray, and bar code reader connect directly to the HP 6890 Plus GC. This reduces bench space requirements, avoids separate power cords and outlets, and reduces cabling.



▲ **Continuously Improving Reliability**

The reliability of Hewlett-Packard automatic liquid samplers—which has always been high—has improved by more than a factor of ten over the past decade. This is a direct result of our continuous improvement efforts.

A Commitment to Continuous Improvement

Hewlett-Packard has always fostered a commitment to continuous improvement of our products. Our instruments are tested under extremes of temperature, humidity, and vibration to ensure years of reliable operation in your laboratory.

We have tested the ruggedness and dependability of the HP 7683 Automatic Liquid Sampler by simulating decades of normal operation through hundreds of thousands of injections.

Furthermore, we have incorporated the latest proven technologies into the HP 7683 ALS to enhance reliability and performance. These tests and technological advancements mean that the HP 7683 ALS will attain an even higher standard of reliability than the excellent reliability of the HP 7673 ALS.

HP Columns and Supplies—The Perfect Fit

For greater confidence in your GC results, you can optimize your total system with quality Hewlett-Packard columns and supplies—the perfect fit for your HP instrument. A wide range of GC columns, supplies, kits, and accessories is designed, manufactured, and tested to rigorous Hewlett-Packard specifications, under a quality system registered to ISO 9001. Why risk compromising your analytical results with anything less than genuine Hewlett-Packard consumables?

For More Information

For more information about the HP 7683 Automatic Liquid Sampler, please call your local Hewlett-Packard sales office or HP distributor and ask for a Chemical Analysis Group representative.

Or log on to the Internet at:
http://www.hp.com/go/chem

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