



State of West Virginia
 Department of Administration
 Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

Request for Quotation

RFO NUMBER
AGR0705

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
RON PRICE
304-558-0492

VENDOR

*C08144020 800-227-9770
AGILENT TECHNOLOGIES INC
2850 CENTERVILLE ROAD

WILMINGTON DE 19808-1610

SHIP TO

DEPARTMENT OF AGRICULTURE
ADMINISTRATIVE SERVICES
BUILDING 2, ROOM 106
4720 BRENDA LANE
CHARLESTON, WV
25312 558-2222

DATE PRINTED 06/08/2006	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **06/21/2006** BID OPENING TIME: **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		493-11	\$84,069.71	\$84,069.71
	<p>GC/MS SYSTEM</p> <p>GC/MS SYSTEM SUITABLE FOR NORMAL BENCH US AND CONSISTING OF COMPONENTS LISTED IN THE ATTACHED SPECIFICATIONS</p> <p>VENDOR PREFERENCE CERTIFICATE</p> <p>CERTIFICATION AND APPLICATION* IS HEREBY MADE FOR PREFERENCE IN ACCORDANCE WITH WEST VIRGINIA CODE, 5A-3-37 (DOES NOT APPLY TO CONSTRUCTION CONTRACTS).</p> <p>A. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS AN INDIVIDUAL RESIDENT VENDOR AND HAS RESIDED CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p> <p>() BIDDER IS A PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR AND HAS MAINTAINED ITS HEAD-QUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR 80% OF THE OWNERSHIP INTEREST OF BIDDER IS HELD BY ANOTHER INDIVIDUAL, PARTNERSHIP, ASSOCIATION OR CORPORATION RESIDENT VENDOR WHO HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS CONTINUOUSLY IN WEST VIRGINIA FOR FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION; OR</p>					

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Ron Price</i>	TELEPHONE (877) 295-4011 (signer)	DATE 06/20/2006
TITLE Business Sales Specialist	FEIN 77-0518772	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

**GENERAL TERMS & CONDITIONS
REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required registration fee. (Effective June 8, 2006, the fee will change from \$45.00 to \$125.00 pursuant to House Bill 4031.)
5. All services performed or goods delivered under State Purchase Orders/Contracts are to be continued for the term of the Purchase Order/Contract, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, this contract is automatically null and void, and is terminated without further order.
14. **HIPAA Business Associate Addendum** - The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Covered Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as EQUAL to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in cases of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **DUPLICATE BIDS:** All quotations must be delivered by the bidder to the respective offices listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications.

ORIGINAL SIGNED BID TO:

Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

DUPLICATE BID TO:

State Auditor's Office
Bid Observer
Building 1 Room W114
1900 Kanawha Boulevard, East
Charleston, WV 25305-0230

NOTICE: Beginning June 8, 2006, there is no need to submit a duplicate bid to the State Auditor's Office pursuant to House Bill 4031.



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DATE PRINTED 06/08/2006	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
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BID OPENING DATE: **06/21/2006** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>() BIDDER IS A CORPORATION NONRESIDENT VENDOR WHICH HAS AN AFFILIATE OR SUBSIDIARY WHICH EMPLOYS A MINIMUM OF ONE HUNDRED STATE RESIDENTS AND WHICH HAS MAINTAINED ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA CONTINUOUSLY FOR THE FOUR (4) YEARS IMMEDIATELY PRECEDING THE DATE OF THIS CERTIFICATION.</p> <p>B. APPLICATION IS MADE FOR 2.5% PREFERENCE FOR THE REASON CHECKED:</p> <p>() BIDDER IS A RESIDENT VENDOR WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES WORKING ON THE PROJECT BEING BID ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID;</p> <p>OR</p> <p>() BIDDER IS A NONRESIDENT VENDOR EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS OR IS A NONRESIDENT VENDOR WITH AN AFFILIATE OR SUBSIDIARY WHICH MAINTAINS ITS HEADQUARTERS OR PRINCIPAL PLACE OF BUSINESS WITHIN WEST VIRGINIA EMPLOYING A MINIMUM OF ONE HUNDRED STATE RESIDENTS WHO CERTIFIES THAT, DURING THE LIFE OF THE CONTRACT, ON AVERAGE AT LEAST 75% OF THE EMPLOYEES OR BIDDERS' AFFILIATE'S OR SUBSIDIARY'S EMPLOYEES ARE RESIDENTS OF WEST VIRGINIA WHO HAVE RESIDED IN THE STATE CONTINUOUSLY FOR THE TWO YEARS IMMEDIATELY PRECEDING SUBMISSION OF THIS BID.</p> <p>BIDDER UNDERSTANDS IF THE SECRETARY OF TAX & REVENUE DETERMINES THAT A BIDDER RECEIVING PREFERENCE HAS FAILED TO CONTINUE TO MEET THE REQUIREMENTS FOR SUCH PREFERENCE, THE SECRETARY MAY ORDER THE DIRECTOR OF PURCHASING TO: (A) RESCIND THE CONTRACT OR PURCHASE</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Ron E. Price</i>	TELEPHONE (877) 295-4011 (signer)	DATE 06/20/2006
TITLE Business Sales Specialist	FEIN 77-0518772	ADDRESS CHANGES TO BE NOTED ABOVE

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<p>ORDER ISSUED; OR (B) ASSESS A PENALTY AGAINST SUCH BIDDER IN AN AMOUNT NOT TO EXCEED 5% OF THE BID AMOUNT AND THAT SUCH PENALTY WILL BE PAID TO THE CONTRACTING AGENCY OR DEDUCTED FROM ANY UNPAID BALANCE ON THE CONTRACT OR PURCHASE ORDER.</p> <p>BY SUBMISSION OF THIS CERTIFICATE, BIDDER AGREES TO DISCLOSE ANY REASONABLY REQUESTED INFORMATION TO THE PURCHASING DIVISION AND AUTHORIZES THE DEPARTMENT OF TAX AND REVENUE TO DISCLOSE TO THE DIRECTOR OF PURCHASING APPROPRIATE INFORMATION VERIFYING THAT BIDDER HAS PAID THE REQUIRED BUSINESS TAXES, PROVIDED THAT SUCH INFORMATION DOES NOT CONTAIN THE AMOUNTS OF TAXES PAID NOR ANY OTHER INFORMATION DEEMED BY THE TAX COMMISSIONER TO BE CONFIDENTIAL.</p> <p>UNDER PENALTY OF LAW FOR FALSE SWEARING (WEST VIRGINIA CODE 61-5-3), BIDDER HEREBY CERTIFIES THAT THIS CERTIFICATE IS TRUE AND ACCURATE IN ALL RESPECTS; AND THAT IF A CONTRACT IS ISSUED TO BIDDER AND IF ANYTHING CONTAINED WITHIN THIS CERTIFICATE CHANGES DURING THE TERM OF THE CONTRACT, BIDDER WILL NOTIFY THE PURCHASING DIVISION IN WRITING IMMEDIATELY.</p> <p>BIDDER: <u>Agilent Technologies, Inc.</u></p> <p>DATE: <u>06/20/2006</u></p> <p>SIGNED: <u><i>Janita E. Price</i></u> **</p> <p>TITLE: <u>Business Sales Specialist</u></p>						

**Agilent is not applying for a preference as we do not meet the criteria outlined. We, however, have reviewed the criteria and are acknowledging this by our signature.

lep

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SIGNATURE <i>Janita E. Price</i> *	TELEPHONE (877) 295-4011 (signer)	DATE 06/20/2006
TITLE Business Sales Specialist	FEIN 77-0518772	ADDRESS CHANGES TO BE NOTED ABOVE

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<p>* CHECK ANY COMBINATION OF PREFERENCE CONSIDERATION(S) IN EITHER "A" OR "B", OR BOTH "A" AND "B" WHICH YOU ARE ENTITLED TO RECEIVE. YOU MAY REQUEST UP TO THE MAXIMUM 5% PREFERENCE FOR BOTH "A" AND "B". (REV. 12/00)</p> <p style="text-align: center;">NOTICE</p> <p>AN ORIGINAL, SIGNED BID MUST BE SUBMITTED TO:</p> <p style="text-align: center;">DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPES OR THE BIDS MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: 41</p> <p>RFQ. NO.: AGR0705</p> <p>BID OPENING DATE AND TIME</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: <i>(302) 993-5941 (signer)</i></p> <p>-----</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Ronald E. Price *</i>	TELEPHONE <i>(877) 295-4011 (signer)</i>	DATE <i>06/20/2006</i>
TITLE <i>Business Sales Specialist</i>	FEIN <i>77-0518772</i>	ADDRESS CHANGES TO BE NOTED ABOVE

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BID OPENING DATE: 06/21/2006		BID OPENING TIME 01:30PM		

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
CONTACT PERSON (PLEASE PRINT CLEARLY): <i>Lanita E. Price, Business Sales Specialist</i>						
***** THIS IS THE END OF RFQ AGR0705 ***** TOTAL:						<u>\$93,221.71</u>
<p><i>*Agilent is bidding per Quote No. 586981, which is enclosed and hereby incorporated by reference. Agilent's offer meets all specifications. Please note: The above Total Price includes an optional second year warranty for \$9,152.00 as requested in your specifications. In order to receive the quoted price, the second year of warranty will need to be procured at the time of instrument purchase. If Agilent should be the successful bidder, please reference our quote number on your purchase order. ep</i></p>						

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SIGNATURE <i>Lanita E. Price</i> *	TELEPHONE (877)295-4011 (signer)	DATE 06/20/2006
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SPECIFICATIONS for the GC/MS SYSTEM

The Gas Chromatograph / Mass Spectrometer (GC/MS) System shall include a GC with one isothermal Split-Splitless injector. The system shall have Electron Ionization (EI) capability. The MS shall be a Quadrupole design. All components of the system shall be under the control of the Windows XP Professional Operating System. The system shall include installation, training and free telephone technical support.

GAS CHROMATOGRAPH

- The GC shall have a Split-Splitless Isothermal Capillary Injector with Electronic Flow Control.
- The Injector shall include a gas-saver feature that slows carrier gas flow through the split vent when the system is not in operation.
- The column oven temperature range shall be from Ambient to 450°C, programmable in 0.1°C increments with at least three (3) programming ramps [ramping rates from 0.1°C/minute to 45°C/minute] and four (4) isothermal plateaus available.

AUTOSAMPLER

- Must allow for liquid sampling by either automatic (programmable) or manual injections and must include a sample tray capable of holding at least 50 sample vials, 4 wash vials, and 4 waste vials.
- Provisions must be available for washing injection syringe with either sample or pure solvent.
- Vendor software must control the autosampler as well as the GC and MS.

MASS SPECTROMETER

- The minimum performance requirements are: Mass range 10 to 1000 amu with scan rate sufficient to support ten (10) spectra per second (or better) and mass resolution of at least unit mass.
- Ionization Mode must be Electron Ionization (EI).
- The MS design must incorporate an Ion Gauge or High Vacuum Gauge for user diagnostics.
- The MS shall include a Turbo-molecular Pump capable of at least 250 liter/sec for fast pump-down and minimal downtime. A Diffusion Pump is NOT acceptable due to the possibility of contamination by oil.
- Minimum Sensitivity EI: with octafluoronaphthalene (OFN), 1 pg splitless injection of OFN produces a signal-to-noise ratio of 100:1 RMS (root-mean-square) or greater.

DATA HANDLING

- The computer workstation must be complete with reporting software and include the following minimum PC features: Dell GX-620 or Equivalent System with Intel® Pentium® Processor (3.0 GHz, 800 FSB), MS Windows® XP Professional (with re-installation CD), Video Card, 1 GB DDR SDRAM at 533 MHz, 80 GB Hard Drive, 12-24X CD/DVD Burner, 1.44 MB 3.5" Floppy Drive, 17" Flat Panel Monitor, 2-Button Mouse with Scroll, Keyboard, Integrated Audio and Ethernet, Color Inkjet Printer, 3-Year Limited Warranty with On-site service.
- Nist 2005 and RTL Pesticides Libraries must be included at a minimum.
- The MS must provide operator tune control to meet all tune criteria for perfluorotributylamine (PFTBA).
- Data Acquisition screen must allow the user to view the spectrum and the chromatogram in real time and permit library searching in real time for immediate confirmation of identification.

CUSTOMER SUPPORT

- **Warranty:** The warranty period shall be for a minimum of one year and shall include parts, labor and travel. The vendor quotation shall include an optional one (1) year of additional coverage for service, parts, labor and travel for a total of two (2) years of service coverage.
- **Post-Installation Training:** Vendor must provide On-Site Method Development Training to cover, *at a minimum*, methods set-up and fine-tuning, quantitation and report generation.
- **Service and Support of the Instrument:** Vendor must be available during normal working hours for all on-demand calls by a technician trained by the instrument manufacturer. Technical phone support shall be available toll free for on-demand calls as well.
- Two (2) copies of all system manuals (operation, training, technical, service maintenance, etc.) shall be included at no charge to the owner.
- Delivery and on-site installation of the system shall be included in the quotation.

AFFIDAVIT

West Virginia Code §5A-3-10a states:

No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owned is an amount greater than one thousand dollars in the aggregate.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions.

"Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

EXCEPTION:

The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

LICENSING:

The vendor must be licensed in accordance with any and all state requirements to do business with the state of West Virginia.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendors should visit www.state.wv.us/admin/purchase/privacy for the Notice of Agency Confidentiality Policies.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), it is hereby certified that the vendor acknowledges the information in this said affidavit and are in compliance with the requirements as stated.

Vendor's Name: Agilent Technologies, Inc.

Authorized Signature: Harold E. Price

Date: 06/20/2006

***Agilent will store and use any of the Customer's Personal Data in accordance with Agilent's privacy practices, which are available upon request or No Debt Affidavit from www.agilent.com - Privacy Statement. Agilent will not sell, rent or lease Customer's Personal Data to others. Customer agrees that Agilent may forward Customer's Personal Data to other Agilent entities or business partners (including agents, resellers and subcontractors) solely to conduct business activities, including communication with third parties (such as the handling of orders, advertising campaigns or market research). Customer agrees that Agilent and its entities may store and use Customer's Personal Data in all countries where Agilent and its entities do business. Customer represents and Agilent acknowledges Customer's representation that consent from individual data subjects has been obtained or is not needed. *ep*



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Quotation

Quote No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	1 of 8
Contact	Phone no.	Valid to	
Mark Fashian	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

TEL: 3045580492 FAX: 304

*RFQ # AGR0705

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G3243A 5975 inert MSD/DS Perf Turbo EI Bundle for use w/6890 & 6850 GC. Includes G3172A MSD, ChemStation (Win XP), G1701DA SW, LaserJet printer. NOT INCLUDED: G3397A ion gauge controller. With the following configuration: Ship-to Country : USA Installation (44K) Familiarization at Installation (44L) 1 Year SW Upgrade/Phone Assist (44W) 1YR PC Repair Recovery Service (0TP)	1.000 EA	65,523.00 USD	15,122.71-	50,400.29
Item Total				50,400.29
Special discount of 23.08 % is applied.				
G3391A Site Preparation Package for use with 5975 inert MSD#s and MSD bundles. With the following configuration: Ship-to Country : USA	1.000 EA	35.00 USD	8.08-	26.92
Item Total				26.92
Special discount of 23.08 % is applied.				



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Quote No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	2 of 8
Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G3397A Ion Gauge Controller for use w/ 5975 MSD	1.000 EA	1,475.00 USD	340.43-	1,134.57
With the following configuration:				
Ship-to Country : USA				
Installation (44K)	1 EA	391.00 USD	90.24-	300.76
Item Total				1,435.33
Special discount of 23.08 % is applied.				
G1033A NIST 05 MS Library Bundle includes: Includes: 191K spectra, 163K structures (Agilent & NIST formats) ,121K Kovats RI, and NIST MS Search & Deconvolution Programs. Requires Windows 2000/XP, and G1701DA SW	1.000 EA	3,794.00 USD	875.66-	2,918.34
With the following configuration:				
Ship-to Country : USA				
Installation (44K)	1 EA	327.00 USD	75.47-	251.53
Item Total				3,169.87
Special discount of 23.08 % is applied.				



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Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

TEL: 3046580492 FAX: 304

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G1672AA Pesticide RTL Database/Library RTL Database and Spectral Library of 926 compounds. For use with Deconvolution Reporting SW G1716AA or as a Standalone product. Requires G1701DA MDS SW.	1.000 EA	3,078.00 USD	710.40-	2,367.60
Item Total				2,367.60
Special discount of 23.08 % is applied.				

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TEL: 3045580492 FAX: 304

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G1540N 6890N Network GC System Custom Includes special configuration, LAN and RS-232 interfaces, and 7683 interface, detector EPC board, 6 temp ramps, 6 heated zones plus oven, 2 analog out.	1.000 EA	11,365.00 USD	2,623.04-	8,741.96
With the following configuration:				
Ship-to Country : USA				
Capillary S/SI inlet with EPC	1 EA	3,530.00 USD	814.72-	2,715.28
Mass Spectrometer Detector Interface	1 EA	1,718.00 USD	396.51-	1,321.49
Factory plumbing For quick installation	1 EA	392.00 USD	90.47-	301.53
Installation (44K)	1 EA	851.00 USD	196.41-	654.59
Familiarization at Installation (44L)	1 EA	785.00 USD	181.18-	603.82
Item Total				14,338.67
Special discount of 23.08 % is applied.				

Ron Price
 Bldg 15
 State of West Virginia
 Dept of Administration
 Purchasing Div
 PO Box 50130
 Charleston WV 25305-0130

Quotation

TEL: 3045580492 FAX: 304

Quote No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	5 of 8
Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G2913A 7683B Autoinjector Module Includes one transfer turret, one 8-sample turret, 6890 injector mounting post, and small "parking" post for GC.	1.000 EA	4,921.00 USD	1,135.77-	3,785.23
With the following configuration:				
Ship-to Country : USA				
Installation (44K)	1 EA	199.00 USD	45.93-	153.07
Familiarization at Installation (44L)	1 EA	133.00 USD	30.70-	102.30
		Item Total		4,040.60
Special discount of 23.08 % is applied.				



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Quotation

Quota No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	6 of 8
Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

TEL: 3045580492 FAX: 304

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
G2614A 7683 Autosampler tray module. Includes a pack of 100 2-mL screw-cap vials. Provides cable connection for the G1926A bar code reader. With the following configuration: Ship-to Country : USA	1.000 EA	5,597.00 USD	1,291.79-	4,305.21
Installation (44K)	1 EA	195.00 USD	45.01-	149.99
Familiarization at Installation (44L)	1 EA	131.00 USD	30.23-	100.77
Item Total				4,555.97
Special discount of 23.08 % is applied.				
G1716AA Deconvolution and Reporting SW for the MSD Productivity ChemStation. Requires but does not include G1701DA D.01.00 and G1033A NIST library. No I&F.	1.000 EA	2,495.00 USD	575.85-	1,919.15
Item Total				1,919.15
Special discount of 23.08 % is applied.				



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Quotation

Quote No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	7 of 8
Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

TEL: 3046580492 FAX: 304

Product/Description	Qty/Unit	Unit List Price	Discount Amount	Extended Net Price
H5949A Supplemental Installation One Hour Labor for Chemical Analysis products. Labor only; no travel included. Requires installation - bundled, or as 44N or 44K.	8.000 EA	295.00 USD	544.69-	1,815.31
Item Total				1,815.31
Special discount of 23.08 % is applied.				
H2103A 2 Year Petrochemical Warranty for G3243A and G1540N, 2 Year Pharmaceutical Warranty for G2913A, and 2 Year Extended Hardware Warranty for G2614A.	1.000 EA	9,152.00 USD		9,152.00
Item Total				9,152.00
Gross Amount				: \$ 118,447.00
Total Discount				: \$ 25,225.29
Total				: \$ 93,221.71

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Quotation

Quote No.	Create Date	Delivery Time	Page
536981	06/19/2006	5 Weeks	8 of 8
Contact	Phone no.	Valid to	
Mark Fashion	740-369-5475	09/17/2006	
To place an order: Call 1-800-227-9770			

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TO PLACE AN ORDER, Agilent offers several options:

- 1) Visit <http://www.agilent.com/chem/supplies> to place online orders using a purchase order or credit card.
- 2) Call 1-800-227-9770 (option 1 then 1) any weekday between 8am and 8 pm Eastern time in the U.S., Canada & Puerto Rico.
- 3) To place an order for Consumables, please fax the order to 302-633-8901.
 To place an instrument and/or software order, please fax the order to 302-633-8953.
- 4) Or you can mail your order to:
 Agilent Technologies
 North American Customer Contact Center
 2850 Centerville Road BU3-2
 Wilmington, DE 19808-1610

To place an order, the following information is required:

- Your company's purchase order number or
- Your VISA, MasterCard or American Express card and expiration date for credit card orders.

EXCLUSIVE OFFERS FOR NEW INSTRUMENT CUSTOMERS, go to www.agilent.com/chem/exclusiveoffers

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- 1) Visit www.agilent.com/chem/supplies to check the status of your order.
- 2) Call 1-800-227-9770 (option 1 then 2 then 2) any weekday between 8 am and 8 pm Eastern time, in the U.S., Canada & Puerto Rico. You will need to know the purchase order or credit card number the order was placed on.

TERMS AND CONDITIONS:

~~This offer is subject to Agilent Technologies' Standard Terms and Conditions for Sales and Services, *Exp*~~

- Pricing: Web prices are provided only for the U.S. in U.S. dollars. All phone prices are in local currency and for end use. Applicable local taxes are applied.
- All Sales Tax is subject to change at the time of order.
- Shipping and Handling Charges: Orders with a value less than \$2000 or those requiring special services such as overnight delivery may be subject to additional shipping & handling fees. Some of these charges may be avoided by ordering via the Web
- Payment Terms: Net 30 days from invoice date, subject to credit approval.

* Quotation Validity: This quotation is valid for 90 days unless otherwise indicated.

* Warranty period for instrumentation is 1 year. The Warranty period for columns and consumables is 90 days.

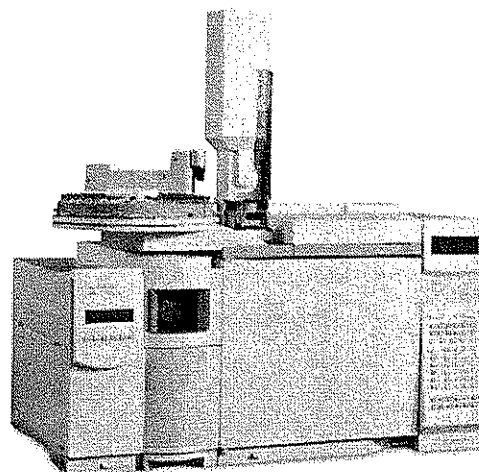
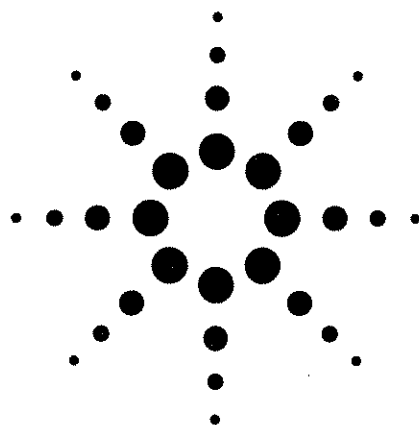
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- For Training course information and registration including e-Seminars, select Education.
- For Literature, Application notes, and other information, select Library.
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This Quotation is valid only for the period indicated. All Products and Services quoted are subject to the then-current version of the Agilent Terms and Conditions of Sales and Service (E16), and the then-current versions of any applicable LSCA Supplemental Terms exhibits. A copy of the relevant Agilent Terms & Conditions and Supplemental Terms are either attached or have been previously provided to you. Please contact us if you have not received a copy or require an additional copy. If you have previously signed Agreement with Agilent covering such Products and Services, the terms of that Agreement will take precedence for those Products and Services. Agilent expressly objects to any different or additional terms in your purchase/sales order documentation, unless agreed to in writing by Agilent. Product and Service availability dates are estimated at the time of the quotation. Actual delivery dates or delivery windows will be specified at the time Agilent acknowledges and accepts your purchase order. The above conditions shall apply to the fullest extent permitted by the law governing this transaction and shall not derogate from any statutory or legal rights you may have thereunder. Commodities, technology or software exported from the United States of America (U.S.), or, from other exporting countries will be subject to the U.S. Export Administration Regulations and all exporting countries, export laws and regulations. Diversion contrary to U.S. law and the applicable export laws and regulations is prohibited.

Agilent 5975 inert GC/MS System

Data Sheet



GC/MS

The Agilent 5975 inert Gas Chromatograph/Mass Spectrometer is the latest GC/MSD with higher performance and capabilities. The instrument incorporates the solid inert source of previous models to give even better sensitivity for active compounds.

New with this model are eMethods, a simple means of complete method transfer. Now it is possible to share methods between 5973 and 5975 MSDs or to download methods directly from Agilent.

Agilent 5975 inert GC/MS System Data Sheet

Mass Spectrometer

Mode (standard)	EI
Modes (optional)	PCI, NCI, EI with CI source
Ion source type	Noncoated inert EI source
Mass filter	Monolithic hyperbolic quadrupole
Maximum mass	1050 Da
Detector	EM with replaceable horn
Scan rate (electronic)	Up to 10,000 amu/s
Pumping system	70 L/s or 262 L/s turbomolecular pump with 2.5 m ³ /hr mechanical pump

Gas Chromatograph (6890N)

Injector	Split-splitless (standard), others available
Oven temperature	Ambient +4 °C– 450 °C
Oven ramps/plateaus	6/7
Electronic pneumatic control (EPC)	Auto pressure regulation for split/splitless, septum purge
Carrier gas control modes	Constant pressure and flow modes; pressure and flow programmable



Data System

eMethods	Transfer methods between 5975 and 5973 Series MSDs
Simultaneous MS and GC	Four signals (up to two MS) detector data acquisitions
SIM/Scan	Automated SIM setup and synchronous SIM/scan operation
Application autotunes	One-click autotune for BFB, DFTPP
Spectral libraries (optional)	NIST, Wiley, Pfleger-Mauer Drug, Stan pesticide
Spectral and RTL databases (optional)	Pesticides and endocrine disruptors, volatiles, PCBs, toxicology, FAMES, flavors, organotin compounds
21CFR11 Compliance	Optional software available

Installation Checkout Specifications

EI scan sensitivity	100:1 S/N for 1-pg OFN scanning from 50–300 amu at nominal m/z 272 ion
PCI scan sensitivity	125:1 S/N for 100-pg BZP scanning from 80–230 amu at nominal m/z 183 ion
NCI scan sensitivity	300:1 S/N for 100-fg OFN scanning from 50–300 amu at nominal m/z 272 ion

Physical Requirements

Dimensions (GC/MS)	88 cm (w) × 56 cm (d) × 50 cm (h) Additional space should be added for the data system and printer.
Weight (GC/MS)	81 M or 96 kg (depending on configuration)

For More Information

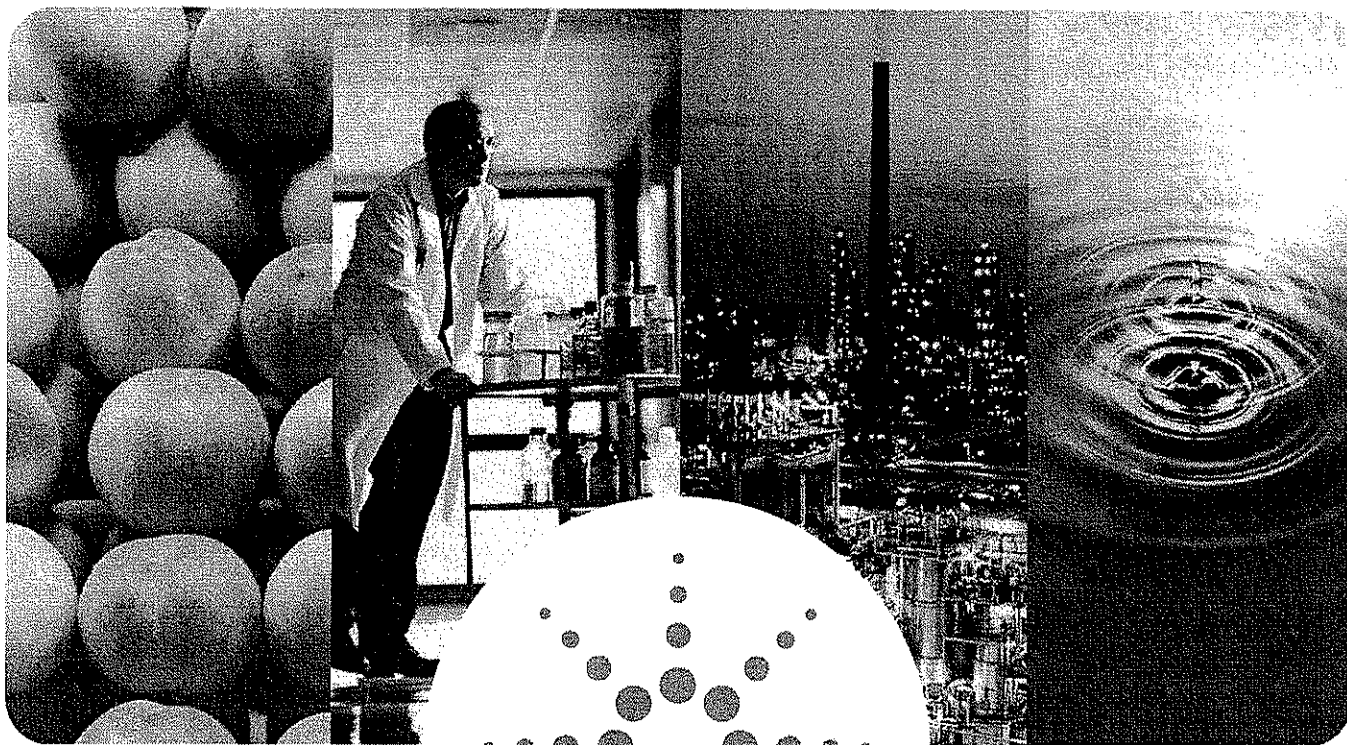
For more information on our products and services, visit our Web site at www.agilent.com/chem.

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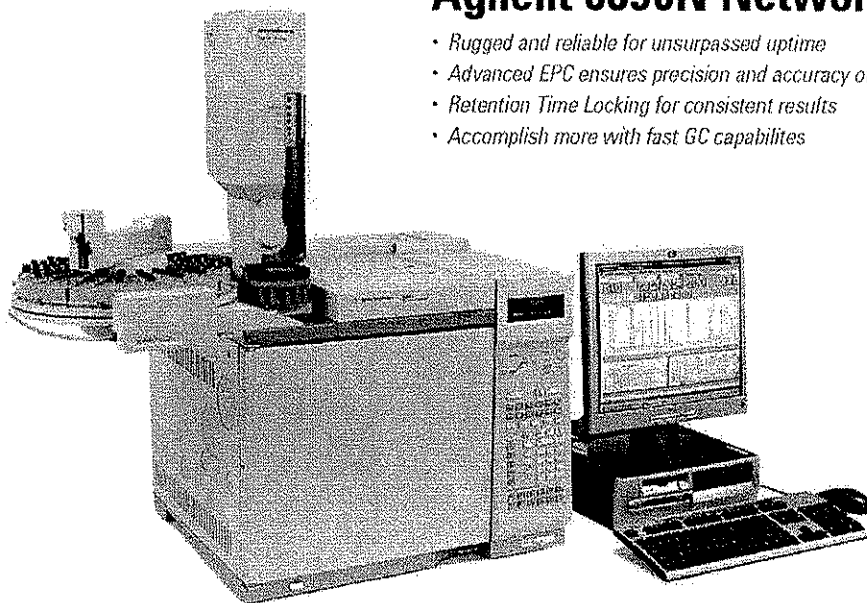
Printed in the USA
June 9, 2005
5989-3156EN



It works as hard as you do.

Agilent 6890N Network GC

- *Rugged and reliable for unsurpassed uptime*
- *Advanced EPC ensures precision and accuracy of results*
- *Retention Time Locking for consistent results*
- *Accomplish more with fast GC capabilities*



We have one thing in mind: hard work.

Laboratories worldwide are looking for a GC solution that delivers reliability, performance, and reproducible results. And nothing produces these benefits like the Agilent 6890N Network GC. By integrating leading-edge technologies with an emphasis on quality manufacturing processes, the 6890N will bring a work ethic to your laboratory that's matched only by your own.

The tools you need to get things done

- Agilent 7683 automatic liquid sampler*
- Agilent G1888 headspace sampler
- Agilent 7694E headspace sampler
- Purge and trap
- Gas and liquid sampling valves
- Deans Switch for 2D GC
- Ambient air sampler and preconcentrator**
- Thermal desorber**
- Pyrolyzer**

Flexibility of columns to suit your needs***

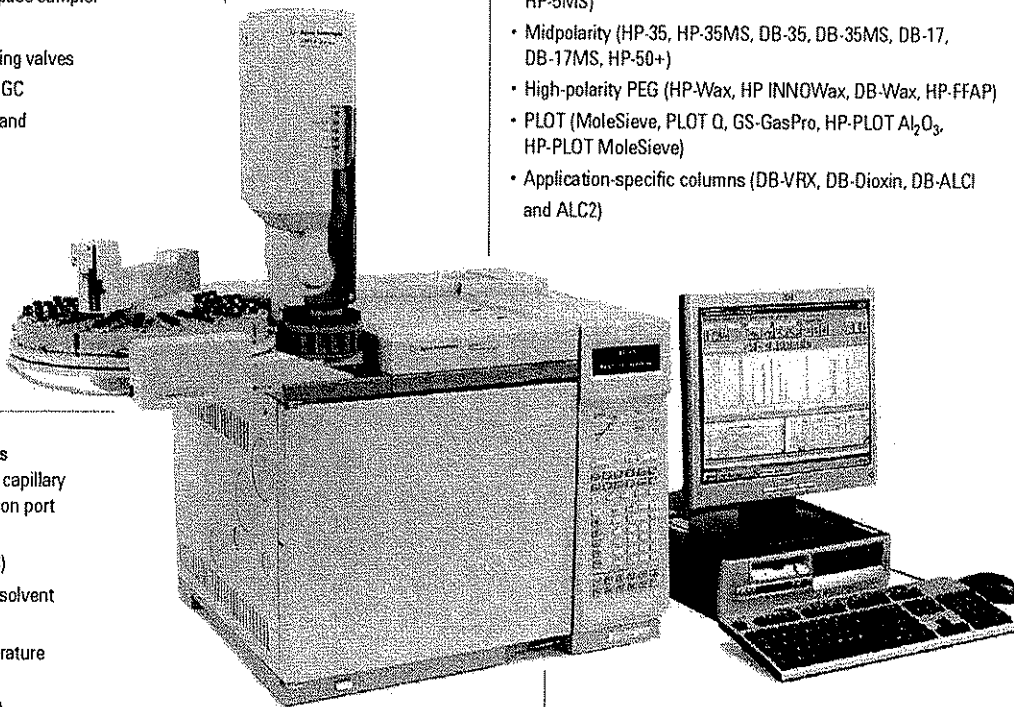
- Nonpolar (HP-1, DB-1MS, DB-5MS, DB-XLB, HP-1MS, HP-5, HP-5MS)
- Midpolarity (HP-35, HP-35MS, DB-35, DB-35MS, DB-17, DB-17MS, HP-50+)
- High-polarity PEG (HP-Wax, HP INNOWax, DB-Wax, HP-FFAP)
- PLOT (MoleSieve, PLOT Q, GS-GasPro, HP-PLOT Al₂O₃, HP-PLOT MoleSieve)
- Application-specific columns (DB-VRX, DB-Dioxin, DB-ALCI and ALC2)

Wide selection of inlets

- Split/splitless (S/SL) capillary
- Packed purged injection port (PPIP)
- Cool on-column (COC)
- Cool on-column with solvent vapor exit (COC-SVE)
- Programmable temperature vaporizing (PTV)
- Volatiles interface (VI)
- Cooled injection system (CIS)**
- Temperature-programmable pre-column**

Accomplish more with networking abilities

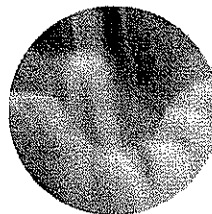
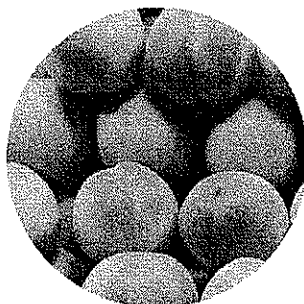
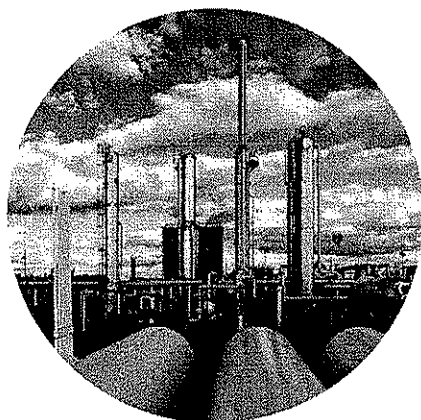
- Lets you share business and scientific data easily within a laboratory and across sites for fast and informed decision making.
- Incorporates local area network (LAN) technology as a standard feature, which makes it easy to link communication and control of multiple analytical instruments. With networking, you can work **smarter, faster, and more economically.**



* The 6890N network gas chromatograph is ready for attaching the Agilent 7683 series automatic liquid sampler.

** Available through Agilent Channel Partners.

*** For a complete list of Agilent columns and supplies, visit our Shopping Village on the World Wide Web at <http://www.agilent.com/chem>



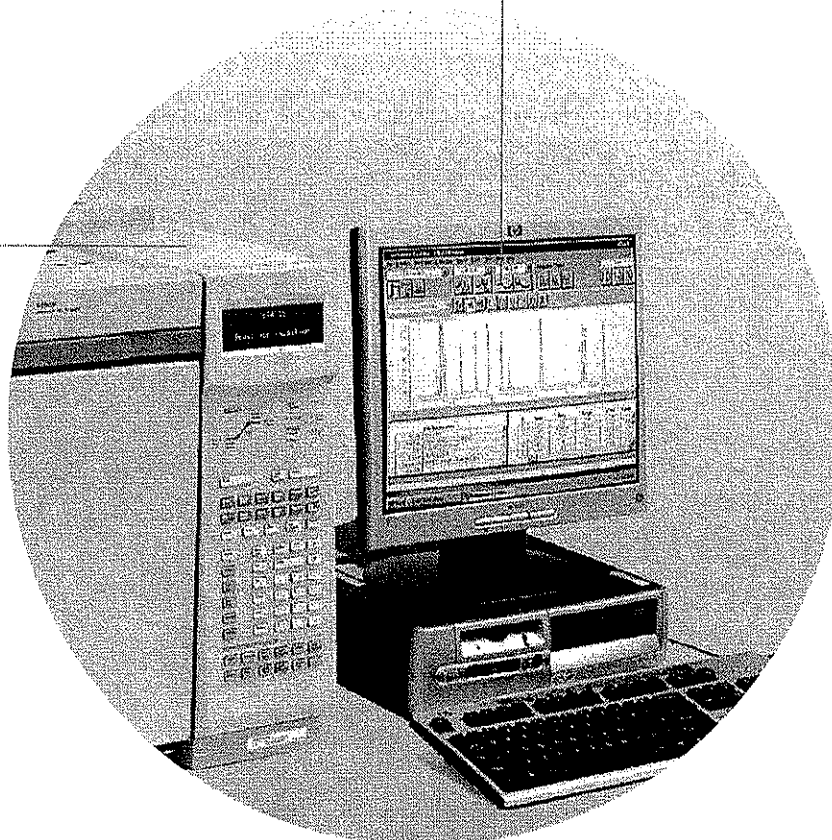
*See how the Agilent 6890N Network GC
can go to work for you.*

Easy operation and data handling

- Agilent ChemStation Plus family (including Agilent ChemStore C/S and ChemAccess C/S) for data organization, storage and remote access
- Agilent Cerity Networked Data System (NDS) for Chemical QA/QC

A variety of detectors

- Mass selective (Agilent 5973N Series MSD)
- Flame ionization (FID)
- Thermal conductivity (TCD)
- Micro-electron capture (micro-ECD)
- Flame photometric, single- or dual-wavelength (FPD)
- Nitrogen-phosphorus (NPD)
- Atomic emission (AED)*
- Pulsed flame photometric (PFPD)*
- Photoionization (PID)*
- Electrolytic conductivity (ELCD)*
- Discharge ionization (DID)*
- Sulfur chemiluminescence (SCD)*
- Nitrogen chemiluminescence (NCD)*



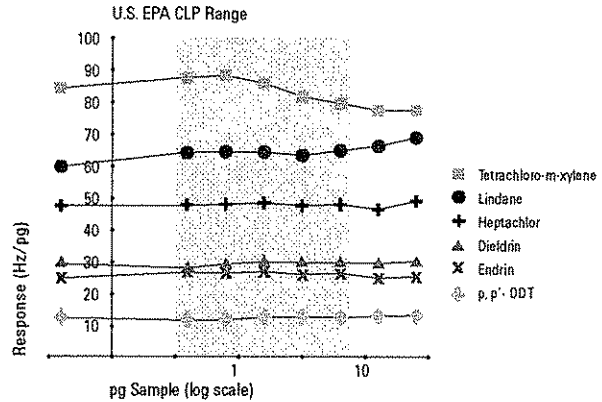
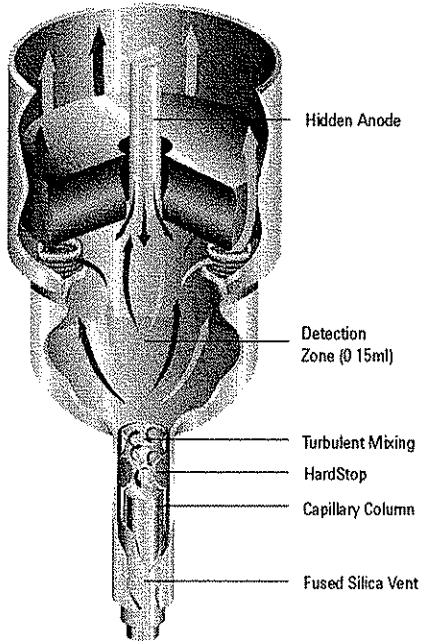
6890N Network GC: It works as hard as you do.

* Available through Agilent Channel Partners.

An instrument that understands an honest day's work.

From operator interaction and sample input to separation, data acquisition, and analysis, the Agilent 6890N network GC system is designed to be one of the most productive workers in your lab.

Micro-Electron Capture Detector



More Productive than Any Other ECD

The Agilent 6890N micro-electron capture detector gives you **greater throughput, less rework, reduced susceptibility to contamination, and expanded detection limits** compared with any other electron capture detector. This detector offers the best sensitivity and linearity in the world. You do not have to concentrate extremely dilute samples and you do not have to dilute concentrated samples to get within the sample calibration range. Furthermore, this rugged, completely redesigned detector, which is optimized for capillary chromatography, lets you perform fast GC.

Increased Laboratory Efficiency

Clock-time programming allows you to set up runs for unattended operation whenever you want. The system can be **ready to work when you get to your laboratory**. Pre-run and post-run commands automatically prepare the system for the next sample.

Date	Time	Command	Mode	Result
11/04/97	09:15	LoadSequence "pchl.g"	Do Once	
11/04/97	09:30	RunSequence	Do Once	
11/04/97	19:00	LoadMethod "pssaver.m"	Do Daily	

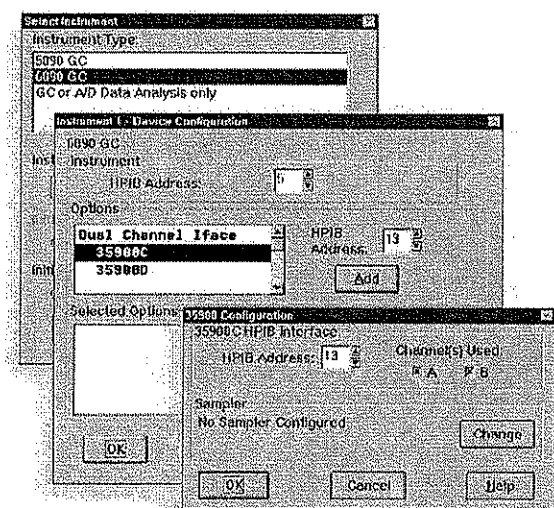
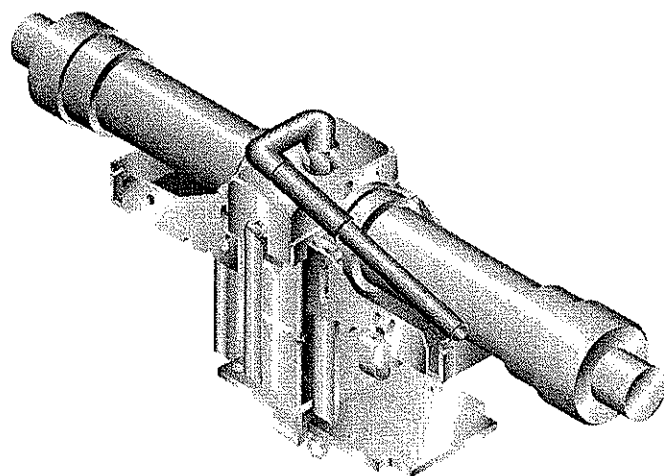
Decreased Calibration Time

You can manually enter existing calibration data and make a run with just one standard peak. The system can normalize the calibration table for you, allowing you to **cut calibration time and avoid re-running your calibration standards**.

#	RT	Signal	Compound	Rep.Factor	Ref	Rs/Rf	#	Ref.Amount
1	5.769		n-pentane	1.000	No	No	5	-
2	7.766		cyclopentane	1.000	No	No	5	-
3	7.827		2,3-dimethylbutane	1.000	No	No	5	-
4	9.630			0.000	No	No	5	-
5	19.571		n-heptane	1.000	Yes	Yes	5	395.000
6	29.168		toluene	0.950	No	No	5	-

6890N Network GC: It works as hard as you do.

Simultaneous Detection of Sulfur and Phosphorus
 A dual-wavelength flame photometric detector can detect, sensitively and selectively, both sulfur and phosphorus—in just one run. You save the time it would take for separate runs.

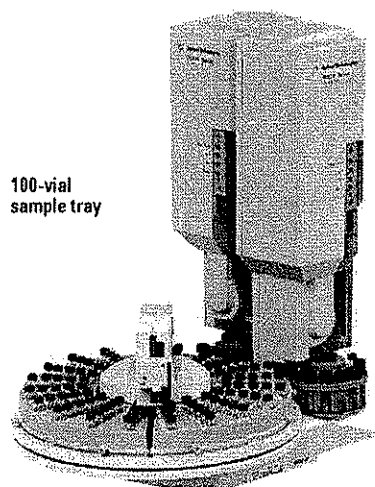


Efficient Data Handling

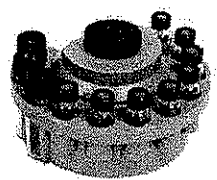
The Agilent ChemStation for the 6890N network GC system lets you display, calibrate, and report data from up to four signals—without having to synchronize separate runs and merge results. This is particularly efficient when you need to set up and report complex analyses.

Agilent's Cerity Networked Data System for Chemical QA/QC gives you exactly what you need for your particular laboratory environment. Use-specific applications model your everyday tasks, making every step more efficient. Cerity NDS also connects you with your company's intranet and the Internet for pulling in what you need to work efficiently or sending out results to your customers, fast.

Automatic Liquid Sampler



100-vial sample tray



8-sample turret for use without tray

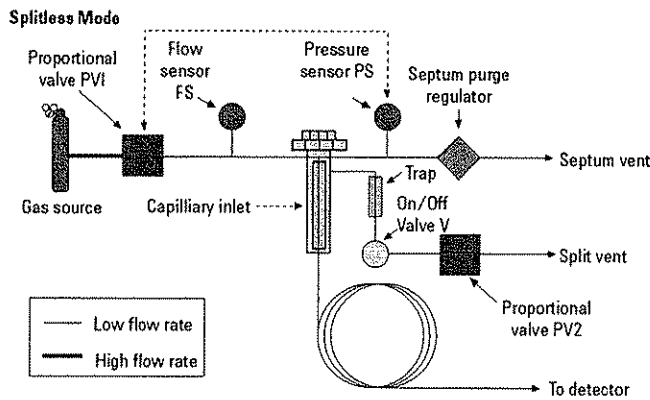
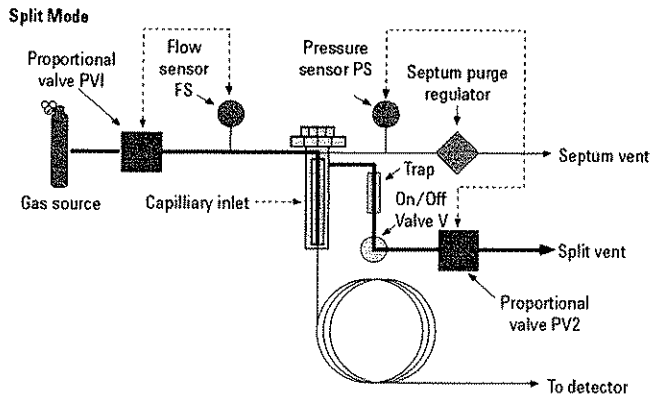


11-vial transfer turret for use with tray

High Sample Throughput

The 6890N network GC system is already set up for the Agilent 7683 automatic liquid sampler, enabling fast and easy installation.

Single or dual injectors, equipped with either an 8-sample turret or a 100-vial sample tray, allow unattended operation. Using the 11-vial transfer turret with the tray and the solvent saving mode, you have enough solvent to run unattended eight times longer than before.



Minimal Rework

The Agilent 6890N network GC system is the only GC system that automatically selects the optimum pressure-control mode for split and splitless analyses. Forward-pressure control is best for splitless injections. Along with a large inlet liner volume and pressure-pulse operation, this mode reduces discrimination, sample degradation, and sample loss caused by liner overload while maximizing sensitivity.

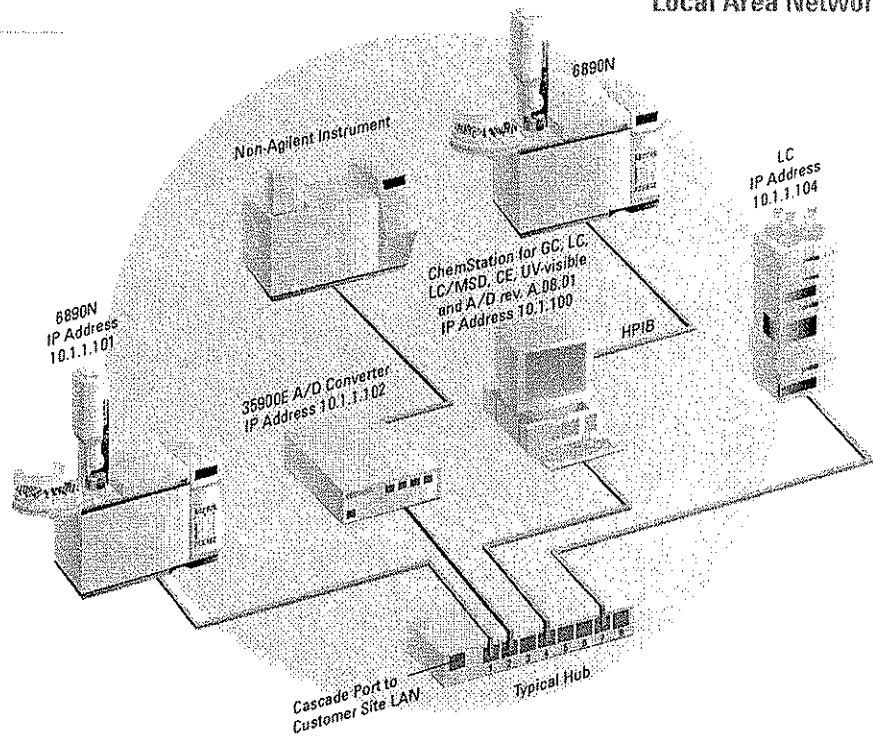
For split injections, the system automatically selects back-pressure control for linear split ratios over the entire usable split-ratio range and over wide column flow and pressure ranges. This reduces sample preparation and increases reproducibility and accuracy.

Automatic switching between forward-and back-pressure modes yields optimal results in less time and with less effort.

Instrument Control—from Anywhere

The 6890N network GC systems, along with other Agilent analytical instruments, incorporate Ethernet technology as a standard feature, enabling extended laboratory connections. Using either Agilent's ChemStation Plus or Cerity Networked Data System software, you have the advantage of instrument control and centralized data handling over virtually unlimited distances. The networked system also uses minimal PC resources and provides easy integration of intranet and Internet solutions.

Local Area Network



Results that meet regulations— and your expectations.

The Agilent 6890N works as hard to meet regulatory requirements as it does to meet the needs of your lab. That's why Agilent designed into the GC ChemStation a variety of features to answer the strict regulatory, certification, and quality control requirements of your industry. Agilent's expert staff of engineers will work for you too— our installation qualification and operational qualification/performance verification services can help ensure your lab is in complete compliance.

Good Laboratory Practice

Method	Event	Time
Method	Method started	10:56
Method	Method completed	15:51
Method	Instrument run completed	15:50
CP Macro	Analyzing rawdata SOLVENT.D	15:50
Method	Instrument running sample vial# 1 (back)	15:06
Method	Method started	15:06
Method	Saving Method WAX.M	15:05
Method	Method stopped by user	15:04
Method	Instrument run completed	15:04
6890	1 Not ready:B inl pres 10.6 psi at runtime 37.4	15:04
6890	1 Not ready:F inlet flow 52.6 at runtime 37.42	15:04

A Record of All Events

Both the Agilent Cerity Networked Data System and Agilent ChemStation Plus family ease the burden of meeting regulatory and quality requirements. Both software programs, for example, record all system events during an analysis. This includes any anomalies or deviations from method setpoints.

Assured Method Security

Your original method, including all GC parameters and data files, can be stored in a single protected, uneditable format for assured integrity. Furthermore, your methods and data are protected by a keyboard lock and multilevel security.

	Low	High		Low	High
Retention time			Peak area		
Peak height			Amount		
Peakwidth at half height			Tangent Peakwidth		
Signal Peakwidth			Peakwidth at falling		
Peak symmetry			Tailed factor		
K'			Index (open method)		
Plate# (tangent method)			Plate# (plate method)		
Plate# (halfwidth method)			Resolution (signal method)		
Resolution (tangent method)			Resolution (relative method)		
Resolution (halfwidth method)			Selectivity		
Skew			Excess		
Library match factor			Peak purity		

System Performance Control

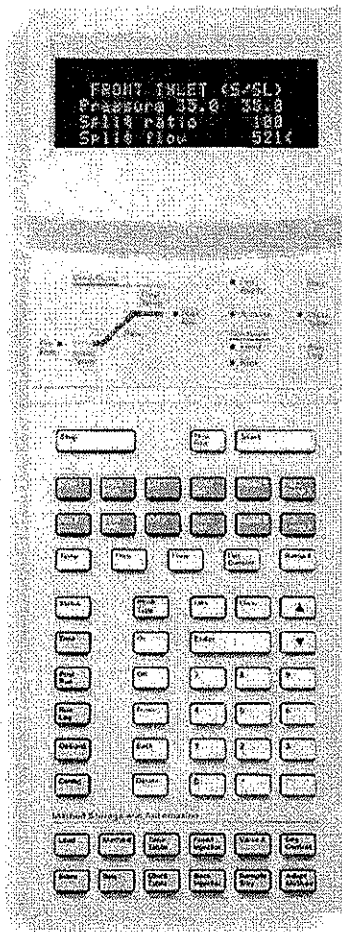
A system suitability table lets you easily set range limits on critical parameters to establish and verify system performance.



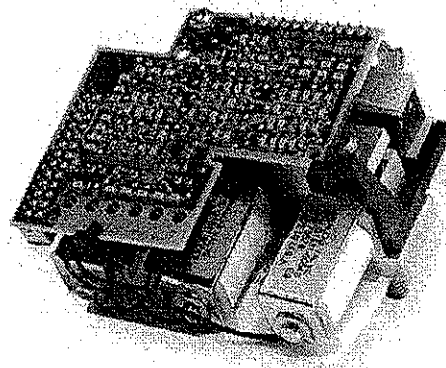
6890N Network GC: It works as hard as you do.

Method setup that's fast, results that stay true.

You want to keep your cost-per-analysis down—but not at the cost of unreliable results. That's why Agilent designed the 6890N to do much of the work for you. It's easy to operate, with minimal time required for training, prep and data handling. You'll save time by entering all GC parameters electronically. Once set, they remain precisely the same for accurate and reproducible results you can count on, every time, with every operator, and with minimal rework.

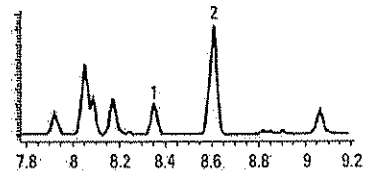


Fourth-Generation Pneumatics Control



Unsurpassed Reproducibility

Full electronic pneumatics control (EPC) makes it fast and easy to set all pressures and flows. Our fourth-generation EPC keeps these setpoints constant from run to run, providing excellent retention time reproducibility.



Retention Time (min)		
Run	Peak 1	Peak 2
1	8.377	8.632
2	8.377	8.632
3	8.377	8.633
4	8.377	8.632
5	8.376	8.632
6	8.374	8.630
7	8.375	8.631
8	8.375	8.631
9	8.374	8.630
10	8.374	8.630
11	8.375	8.631
12	8.376	8.632
13	8.376	8.632
14	8.376	8.632
15	8.376	8.632
Average	8.376	8.632
Standard Deviation	0.001	0.001

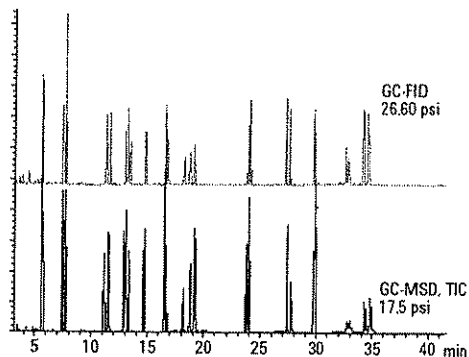
Simplified Control

The 6890N keyboard simplifies parameter entry and system control. The keyboard displays four parameters of your choice, giving you instant access to system information—for fast, effective diagnostics and troubleshooting. All parameters can be stored and recalled at the touch of a button.

Retention Time Locking with GC and GC/MSD ChemStation

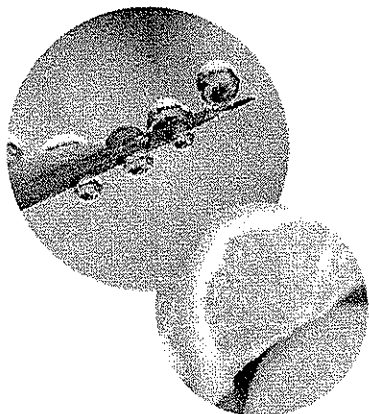
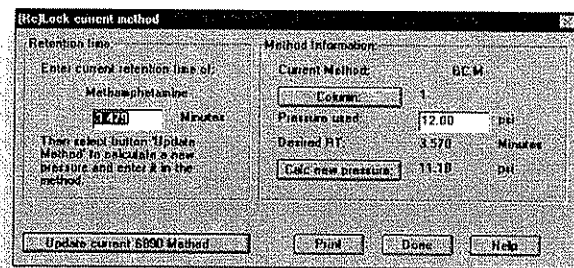
Retention Time Repeatability on Different Configurations of the Agilent 6890N GC with EPC					
Inlet	Detector	Injection Technique	Dichlorvos	Chlorpyrifos Methyl	Mirex
COC	MSD	On-column	5.862	16.607	29.836
PTV	MSD	Splitless	5.897	16.593	29.800
S/SL	FID	Splitless	5.797	16.587	29.856
S/SL	AED	Splitless	5.829	16.600	29.839
S/SL	AED	Splitless	5.837	16.604	29.851
PTV	Micro-ECD	Split	5.798	16.576	29.876
PTV	Micro-ECD	Split	5.860	16.597	29.884
PTV	Micro-ECD	Cold splitless	5.862	16.589	29.867
S/SL	Dual FPD	Splitless	5.814	16.596	Undetected
S/SL	NPD	Splitless	5.814	16.596	Undetected
Statistical Comparison of Results					
High-low			0.100	0.028	0.076
Average			5.837	16.595	29.849
Standard deviation			0.033	0.009	0.024
% Relative standard deviation			0.560	0.054	0.080

MSD Method Locked to FID Method
Mixture of 25 Pesticides



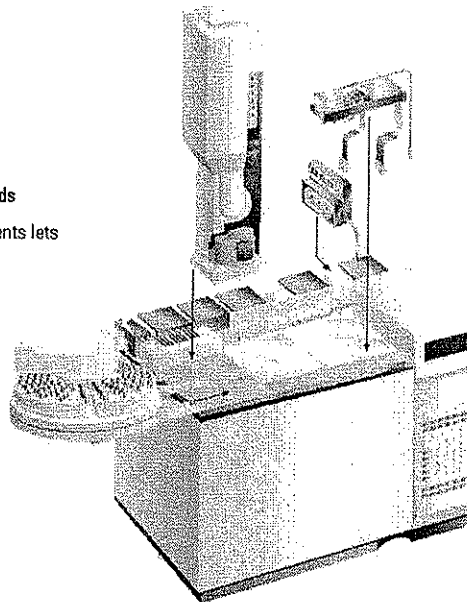
Different Detector, Different Location, Different Operator—Same Results

Retention Time Locking (RTL) software is a powerful productivity tool that lets you reproduce exactly the same results on multiple Agilent GCs with EPC—configuration to configuration, location to location, operator to operator. This revolutionary technology allows retention times to be reproduced between Agilent GC systems within hundredths and even thousandths of a minute. With RTL, you more easily and accurately identify peaks, increase sample throughput, reduce the risk of noncompliance, enhance confidence in analytical results, and lower operating costs.



Modularity to Meet Changing Needs

Modular design of system components lets you quickly change or upgrade GC configurations with ease.

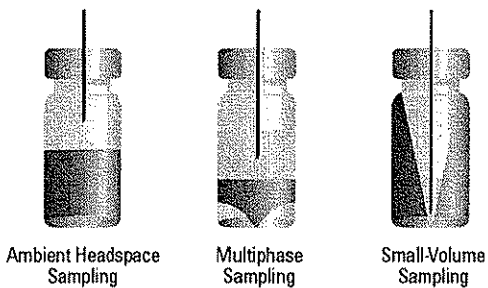
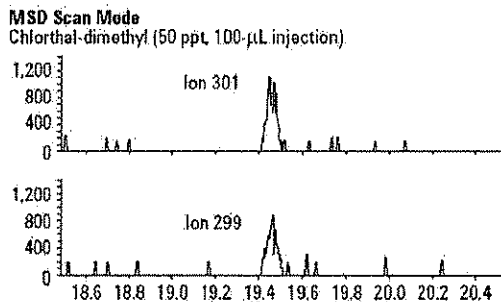


6890N Network GC: It works as hard as you do.

Take the work out of manual sample prep.

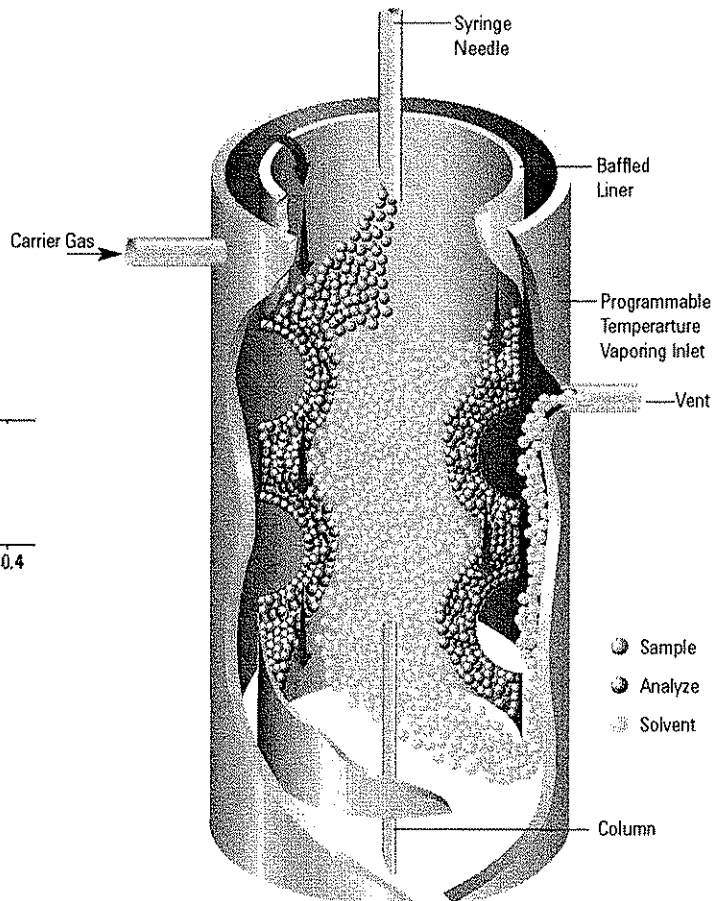
With enhanced technologies, the 6890N works harder than ever to increase your lab's performance. Both injection and headspace sampling are automated, which means less manual work and even more precise results. You'll enjoy quicker turnaround time, lower cost per analysis, and less waste.

Large-Volume Injection



Sampling Flexibility

The Agilent automatic liquid sampler lets you mimic manual injection. At the same time, you get the convenience of automated injection. Other benefits include improved precision and accuracy (with the industry's fastest injection speed) and the ability to sample individual layers in a vial for automated micro-liquid/liquid extraction and ambient headspace analysis.

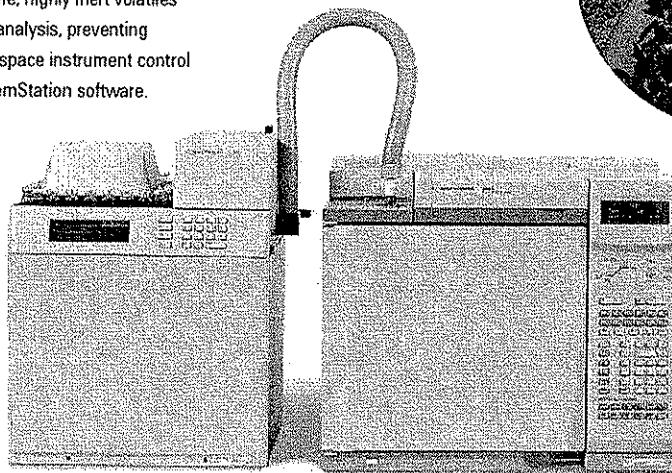


No Sample Concentration

The system's automatic liquid sampler offers large-volume injection, eliminating sample concentration steps. Using the programmable temperature vaporizing inlet or cool on-column inlet, you can inject up to 50 μ L in a single injection. If you are using a programmable temperature vaporizing inlet, you can inject up to 500 μ L, with multiple injections. This gives you highly sensitive quantitation—especially useful for mass selective detection and atomic emission detection.

No Sample Preparation

Headspace sampling can eliminate sample preparation by introducing volatile components automatically—from virtually any matrix—directly into the GC. A low-volume, highly inert volatiles interface is optimized for headspace-GC analysis, preventing sample loss or degradation. Agilent headspace instrument control is fully integrated into the Agilent GC ChemStation software.



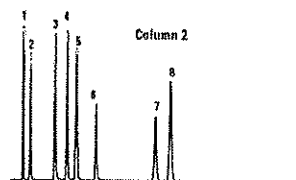
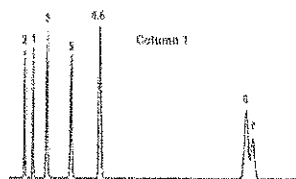
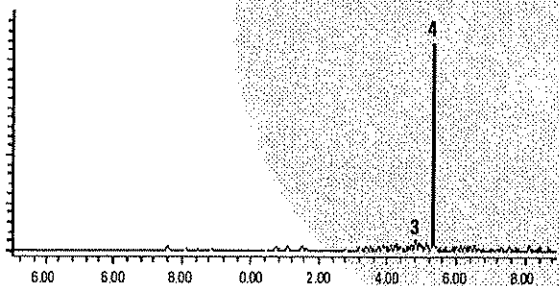
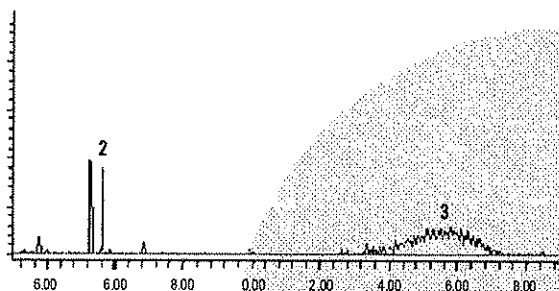
Blood Alcohols by Headspace

30 m x 0.32 mm x 1.8 μ m
DB-ALC1

GC Oven: 35° C isothermal
Inlet: Split/splitless at 150 C°
A two-hole female (P/N 5062-3580)
was used to connect both columns to
the same inlet.
Column I: DB-ALC1 (P/N 123-9134)
30m x 0.32 mm x 1.8 μ m
Column II: DB-ALC2 (P/N 123-9234)
30m x 0.32 mm x 1.2 μ m

Headspace oven: 60°C
Vial equilibration time: 15 min
Sample: 5 μ l of 0.08 g/dL standard mix
in 10 ml vial

Peak 1 = Acetaldehyde
Peak 2 = Methanol
Peak 3 = Ethanol
Peak 4 = Acetone
Peak 5 = 2-Propanol
Peak 6 = Acetonitrile
Peak 7 = Ethyl Acetate
Peak 8 = Methyl Ethyl Ketone



Reduced Derivatization

A cool on-column inlet offers a gentle environment for thermally labile compounds. This minimizes the need for derivatization and improves the accuracy of sample characterization.

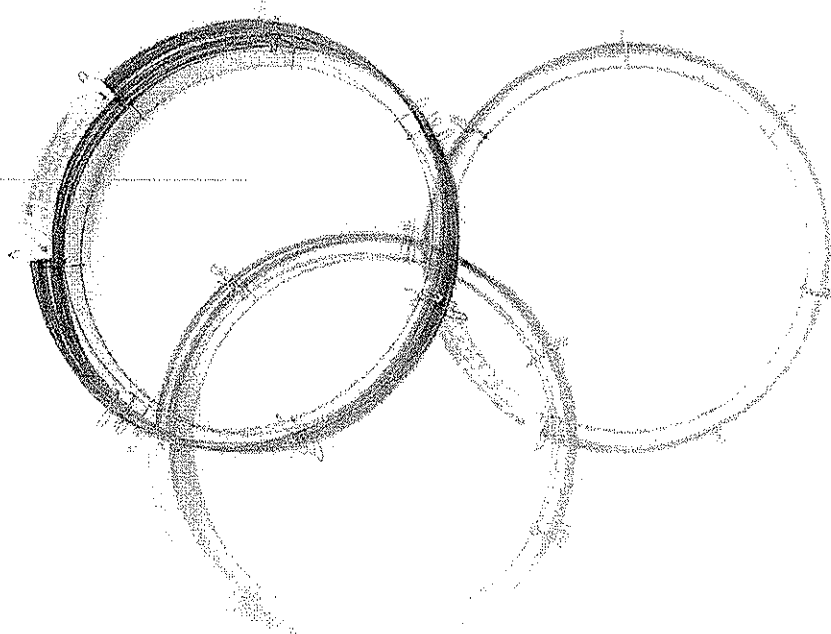
Agilent Network GC: It works as hard as you do.

Waste no time, results come in minutes.

The Agilent 6890N network GC system lets you cut analysis time dramatically—without sacrificing the quality of your results.

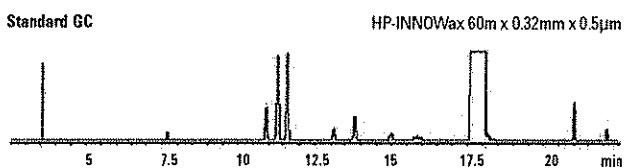
Columns for Fast Analysis

A line of HP 100- μm and 200- μm high-speed capillary columns complements the fast analysis capabilities of the Agilent 6890N network GC system. These narrow-bore columns are available in a number of configurations, including constant phase ratio—a configuration useful for scaling down from conventional larger column diameters when you want to shorten GC run times and improve efficiency. HP high-speed capillary columns come in a variety of popular phases and film thicknesses for fast gas chromatography without loss of resolution.



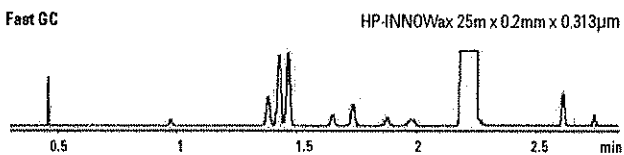
Styrene

Standard GC

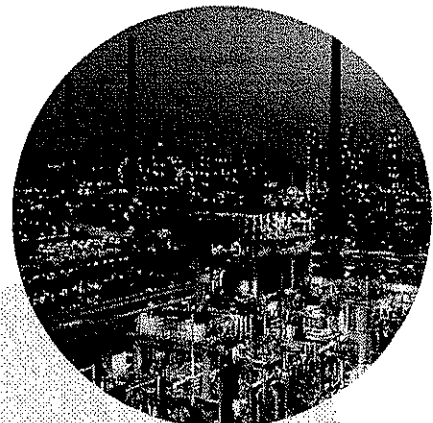


HP-INNOWax 60m x 0.32mm x 0.5 μm

Fast GC



HP-INNOWax 25m x 0.2mm x 0.313 μm



Real GC—Ten Times Faster

The Agilent 6890N network GC system provides everything you need for fast GC. This includes fast automatic injection, split/splitless inlets, 0.1-mm capillary columns, high-speed detectors, fast data handling, and method translation software. You get *real* chromatography, accurately and consistently, two or five or even ten times faster than standard GC. And you can switch back to standard GC with ease.

GC Method Translator

Options: Translate Only Opt Efficiency Fast Analysis None | Speed gain: 4.43x

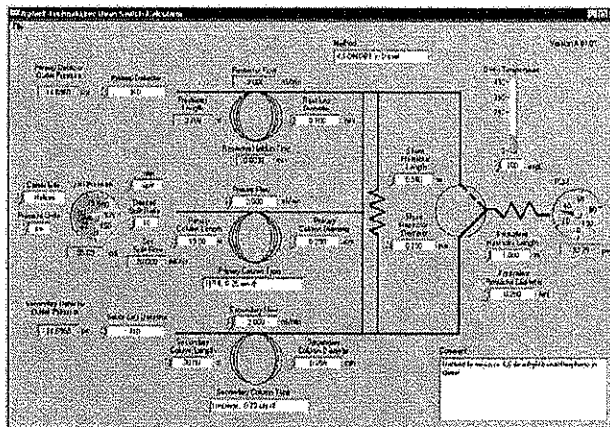
	Original Method	Translated Method				
Column						
Length	100.0	40.00				
Internal Diameter	250.0	100.0				
Film Thickness	0.500	0.200				
Phase Ratio	126.0	126.0				
Carrier Gas	Helium	Hydrogen				
Energy Source						
Inlet Pressure	40.000	80.000				
Flow Rate	1.7610	0.8910				
Outlet Velocity	52.33	194.77				
Average Velocity	23.77	42.17				
Holdup Time	7.01269	1.88100				
Outlet Pressure (absolute)	14.696	14.696				
Ambient Pressure (absolute)	14.696	14.696				
Own Temperature <input type="checkbox"/> Temp Program						
	Ramp Rate	Final Temp	Final Time	Ramp Rate	Final Temp	Final Time
	°C/min	°C	min	°C/min	°C	min
	95.00	13.000		85.00	2.331	
Ramp 1	10.000	45.00	15.000	24.354	45.00	3.300
Ramp 2	1.000	60.00	15.000	4.435	60.00	3.300
Ramp 3	2.000	220.00	0.000	10.971	220.00	1.167

Easy Translation to Fast GC

Free method translation software lets you transfer current methods to faster methods in minutes. You can see the impact of parameter changes on analysis speed—before you run a sample. At the same time, the software identifies any potential method or instrument constraints so that you know what will work before investing significant time and money.

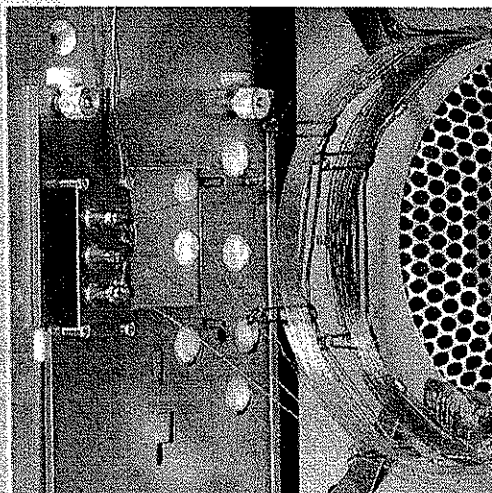
2D GC Made Easy

Setup and operation of 2D GC is made reliable and easy to use by combining Micro-fluidic and EPC technologies. This unique software tool minimizes operator effort by automatically calculating restrictions and pressures. The reproducibility of retention times of the 6890N GC results in improved accuracy and reliability. 2D GC is available pre-configured by Agilent, as a standard option, or as an accessory for existing 6890N GC systems.



2D GC Using Micro-Fluidic Technology

Agilent's patented Micro-fluidic technology greatly improves the performance of 2D GC. Internal volumes are optimized to maximize separation efficiency and eliminate peak tailing. Each device is deactivated to produce superior results even for trace analysis of chemically active compounds. A new fitting and ferrule design simplifies column installation and eliminates leakage even with repeated oven temperature programming to final temperatures over 400°C.



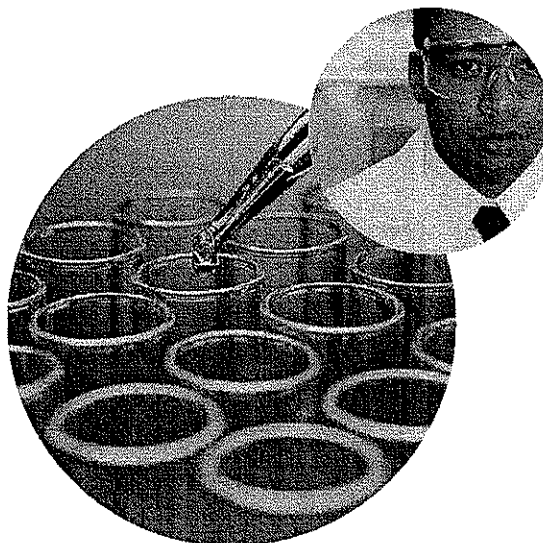
Created for endurance— now and for years to come.

The Agilent 6890N network GC system incorporates the lessons learned from 40 years of producing the world's best-selling and most reliable GCs. In fact, labs turn to Agilent because they know the instruments will perform accurately and consistently over extended periods— and when they do replace or upgrade a system, they regularly return to Agilent.

You can be sure your Agilent instrument will prove to be a workhorse for your lab, too. Each 6890N network GC system ships with a Declaration of Conformity that certifies it has passed stringent safety tests, ensuring the instrument will meet Agilent's performance specifications. We back it all up with our Agilent Value Promise that guarantees you'll have at least 10 years use from your 6890N (see back panel for details). Now that's a hard-working promise.

Agilent Columns and Supplies— The Perfect Fit

For greater confidence in your GC results, you can optimize your total system with quality Agilent columns and supplies—the perfect fit for the Agilent 6890N network GC system. A wide range of GC columns, supplies, kits, and accessories is designed, manufactured, and tested to rigorous Agilent specifications, under a quality system registered to ISO 9001. Why risk compromising your analytical results with anything less than genuine Agilent consumables?



Backed by Agilent Support

You can also ensure the best performance from your 6890N by relying on a variety of Agilent-brand services. Whether you need assistance in hardware or software installation, performance checks, or on-going technical support, Agilent can help maintain reliable operations over the life of your instrument.

Special Service Bundles

Agilent offers special service bundles that are designed to meet the needs of your laboratory. Essential services include:

- Telephone support to resolve hardware problems
- At-your-site instrument service plus consumables used for repairs
- Off-site instrument repair service
- Annual preventative maintenance

Agilent customer service centers are located worldwide. With Agilent support, you can reduce operational costs, increase laboratory productivity, and lighten the load of regulatory compliance.

See how Agilent training can work for you.

Agilent has a series of convenient 6890 system GC Web-based training modules. You can learn at your desk—with minimal disruption to work schedules—or wherever you can connect to the Internet. e-Learning gives you focused instruction in instrument theory, operation, routine maintenance, as well as common problems and solutions.

You can view module descriptions, try a demo, register, and purchase modules by visiting www.agilent.com/chem/elearning.



6890 Network GC: It works as hard as you do.

GC e-Learning On-Demand and Live Course Titles and Descriptions

Product Number	Course Title	Description
R1691A	6890 GC Split Inlet Mode Operation	This module teaches you the basic theory and operation of the 6890 GC split/splitless capillary inlet when operating in the split mode.
R1692A	6890 GC Splitless Inlet Mode Operation	This module teaches you the basic theory and operation of the 6890 GC split/splitless capillary inlet when operating in the splitless mode.
R1693A	6890 GC Purged Packed Inlet Operation	This module teaches you the basic theory and operation of the 6890 GC purged packed inlet.
R1694A	Capillary Columns Theory and Operation	This self-paced e-Learning module teaches you the basic theory and operation of capillary columns.
R1695A	6890 GC Keyboard Operation	This self-paced e-Learning module teaches you the basic operation of the 6890 GC keyboard. It is designed to help you to understand all of the keys to gain the maximum benefit from your GC.
R1696A	6890 GC FID Theory and Operation	This module teaches you the basic theory and operation of the FID.
R1697A	6890 GC ECD Theory and Operation	This module teaches you the basic theory and operation of the ECD.
R1698A	6890 GC TCD Theory and Operation	This module teaches you the basic theory and operation of the TCD.
R1699A	GC Automatic Liquid Sampler Operation	This module teaches you the basic operation of the Agilent automatic liquid sampler system (ALS). It is designed to help you gain the maximum productivity from the ALS.
R1700A	Logical GC Troubleshooting	This module teaches logical steps in troubleshooting GC system problems. These steps are designed to identify the source of the problem quickly and prevent the troubleshooting task from becoming overwhelming.

A Sizable Promise

For nearly two decades, Agilent Technologies has been improving the way laboratories get results, perform their processes, and enhance their businesses. And the Agilent 6890N Network GC is no exception. With exemplary performance and outstanding ease-of-use packed into its compact frame, the 6890 will help improve the efficiency and productivity of your lab.

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. Not only does Agilent ensure a safe purchase now, we help ensure your investment is as valuable to you in the long run.

Information at your fingertips

Stay up-to-date on the 6890N Network GC and other Agilent products. Register at www.agilent.com/chem to receive exclusive benefits, such as:

- Personalized email notifications that reflect your selected interests
- Access to how-to videos, chromatogram libraries, application notes, and more
- Free firmware and software updates
- Fast enrollment for e-Seminars and other training

Find out more today

For more information about how you can benefit from the Agilent 6890N Network GC system, Agilent's support services, or Agilent training courses, visit us online or call toll free:

<http://www.agilent.com/chem>

1-800-227-9770 (in the U.S. and Canada)

Outside the U.S. and Canada, please call your local Agilent Technologies analytical sales office or authorized Agilent Technologies distributor.

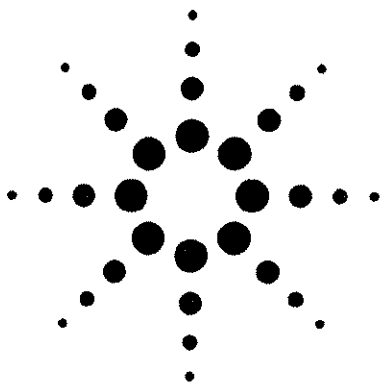
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5989-0973EN

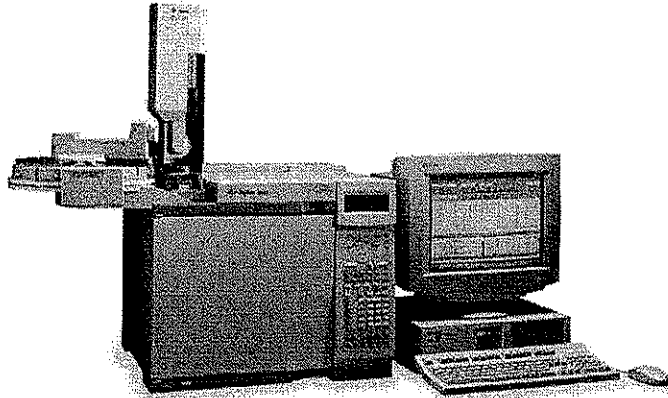


Agilent Technologies



Agilent 6890N Network Gas Chromatograph

Data Sheet



Chromatographic Performance*

- Retention time repeatability <math><0.008\%</math> or <math><0.0008</math> min
- Area repeatability <math><1\%RSD</math>

The Agilent 6890N is a state-of-the-art gas chromatograph that provides superior performance for all applications. Key to its performance is the use of advanced electronic pneumatic control (EPC) modules and high performance temperature control. Each EPC unit is optimized for its intended use with a specific inlet and detector option.

Temperature control of the 6890N oven allows for fast and precise temperature ramping. Overall thermal performance provides optimal chromatography including peak symmetry, retention time repeatability, and retention index accuracy. The combination of precise pneumatic control and accurate temperature control leads to outstanding retention time repeatability, the basis for all chromatographic measurement.

*Using 6890N with EPC (splitless), ALS and Agilent Data System for analysis of tetradecane (2 ng to the column). Results may vary with other samples and conditions. For a complete explanation on how these figures and all chromatographic figures of merit were determined, see Agilent publications [1 and 2].

A full array of traditional gas sampling and column switching valves are available. A new high-performance inert pneumatic switching manifold is available for a number of advanced chromatographic applications (2-D heart cutting, detector splitting, etc).

Agilent GC systems are known for their reliability, ruggedness, and long life. The Agilent 10-year use guarantee provides greater assurance for a low-cost of ownership throughout its life.

System Capabilities

- Dual channel design supports two inlets and two detectors.
- Full range digital data output enables the smallest and largest peaks to be quantitated in a single run.
- Full EPC is available for all inlets and detectors. Control range and resolution are optimized for the specific inlet or detector module.
- EPC with capillary columns provides four column flow control modes: constant pressure, ramped pressure (3 ramps),

constant flow, or ramped flow (3 ramps). Column average linear velocity is calculated.

- Atmospheric pressure and temperature compensation is standard, so results do not change, even when the laboratory environment does.
- Automatic Liquid Sampling is fully integrated into mainframe control.
- Set point and automation control can be done from the local keyboard or via a networked data system. Clock-time programming can be initiated from the front panel to initiate events (on/off, method start, etc) at a future date and time.
- A run time deviation log is created for each analysis to ensure that all method parameters were achieved and maintained.
- Display of all GC and automatic liquid sampler (ALS) set points at the GC or data system. Agilent supports open connectivity by providing communication protocols to other vendors.



Agilent Technologies

Column Oven

- Dimensions: 28 × 31 × 16 cm. Accommodates up to two 105 m × 0.530 mm id capillary columns or two 10-ft glass packed columns (9 in coil diameter, 1/4 in od), or two 20-ft stainless steel packed columns (1/8 in od).
- Operating temperature range suitable for all columns and chromatographic separations. Ambient temperature +4 °C to 450 °C.
 - With LN₂ cryo cooling: -80 to 450 °C.
 - With CO₂ cryo cooling: -40 to 450 °C.
- Temperature set point resolution: 1 °C.
- Supports 6 oven ramps with 7 plateaus. Negative ramps are allowed.
- Maximum achievable temperature ramp rate: 120 °C/min (120 V units are limited to 75 °C/min, see Table 1).
- Maximum run time: 999.99 min (16.7 h).
- Oven cool down (22 °C ambient) 300 °C to 50 °C in 4.5 min).
- Ambient temperature rejection: <0.01 °C per 1 °C.
- Support for up to 8 valves.
 - Valves 1-4, 12 V DC 13 watt in a heated valve box
 - Valves 5-6, 24 V DC 100 mA unheated, for low power valve applications
 - Valves 7-8, externally powered as a remote event from separate contact closure

- Independent heated zones, not including oven: six (two inlets, two detectors, and two auxiliary).
- Maximum operating temperatures for auxiliary zones: 400 °C.

Electronic Pneumatics Control (EPC)

- Atmospheric pressure compensation sensor to compensate for altitude and ambient temperature variation is standard.
- Pressure may be adjusted by increments of 0.01 psi.
- Pressure/Flow ramps: Three maximum.
- Carrier and makeup gas settings selectable for He, H₂, N₂, and argon/methane.
- Flow or pressure setpoints for each inlet or detector parameter with both Agilent 6890N and Agilent ChemStations.
- Automated carrier has constant flow, when capillary column dimensions are entered into the 6890.
- Split/Splitless, PTV inlets have flow sensors for the control of split ratio.
- Inlet modules
 - Pressure sensors: Accuracy: <±2% full scale, Repeatability: <±0.05 psi, Temperature coefficient: <±0.01 psi/°C, Drift: <±0.1 psi/6 months.
 - Flow sensors: Accuracy: <±5% depending on carrier gas, Repeatability: <±0.35% of setpoint, Temperature coefficient: <±0.20 mL/min normalized temperature and pressure (NTP)* per °C for He or H₂;

<±0.05 mL/min NTP per °C for N₂ or Ar/CH₄.

- Detector modules
 - Accuracy: <±3 mL/min NTP or 7% of setpoint, Repeatability: <±0.35% of setpoint, Temperature coefficient: <±0.20 mL/min NTP per °C.

*NTP = 25 °C and 1 atmosphere

Inlets

- Maximum of two inlets installed.
- Inlets available:
 - Packed purged injection port (PPIP)
 - Split/Splitless capillary inlet (S/SL)
 - Temperature-programmable cool on-column (PCOC)
 - Programmable temperature vaporizer (PTV)
 - Volatiles inlet (VI)

S/SL

- Suitable for all capillary columns.
- Split ratios up to 7500:1 to avoid column overload.
- Splitless mode for trace analysis. Pressure-pulsed splitless is easily accessible for best performance.
- Maximum temperature: 400 °C.
- EPC available in two pressure ranges: 0-100 psig (0 to 680 kPa) for best control for columns 0.200 mm diameter; 0-150 psig for columns <0.200 mm diameter. Pressure set point resolution is 0.01 psig. Total flow control/sensing up to 1000 mL/min (He, H₂).
- Gas saver mode to reduce gas consumption without compromising performance.
- Optimized septum purge flow to eliminate "ghost" peaks.
- Total flow setting range: 0 to 200 mL/min N₂ 0 to 1,000 mL/min H₂ or He
- Flip top accessory is available for quick, easy, injector liner changes.
- Available with manual pneumatics.

Table 1. Typical 6890 GC Oven Ramp Rates

Temperature range (°C)	120 V Oven rates (°C/min)	Fast ramp rates* (°C/min)	
		Dual-Channel	Single-Channel**
50 to 70	75	120	120
70 to 115	45	95	120
115 to 175	40	65	110
175 to 300	30	45	80
300 to 450	20	35	65

* Fast ramp rates require power >200 volts at >15 Amps.

** Requires G2646A oven insert accessory.

PCOC

- Direct injection onto cool capillary column assures quantitative sample transfer with no thermal degradation.
- Automatic liquid injection supported directly onto columns ≥ 0.250 mm id.
- Maximum temperature: 450 °C. Temperature programming in 3 ramps or tracking oven. Subambient control to -40 °C is optional.
- Electronic pressure control range: 0.00 to 100.00 psig.
- Optimized septum purge flow.
- Optional Solvent Vapor Exit for large volume injections.
 - Electronically controlled, inert, three-way valve allows solvent venting.
 - Includes software for method optimization.
 - Pre-assembled retention gaps/vent line/analytical column for easy installation.

PPIP

- Direct injection onto packed and wide bore capillary columns.
- Electronic flow/pressure control: 0.0 to 100 psig pressure range, 0.0 to 100.0 mL/min. Ranges are chosen to provide optimum performance over normal packed column set point ranges.
- 400 °C maximum operating temperature.
- Adapters included for 1/4-inch and 1/8-inch packed columns, and 0.530-mm capillary columns.
- Manual pneumatics available.

PTV

- Most versatile inlet for difficult samples supporting cool injections and large volume injections in split and splitless modes.
- Temperature control: either LN₂ (to -160 °C) or LCO₂ (to -65 °C) cooling. Temperature programming of up to 3 ramps at up to 720 °C/min. Maximum temperature: 450 °C.

- EPC. Pressure range 0.00 to 100 psig.
- Split ratio up to 1000:1.
- Choice of Gerstel septumless head or Merlin Microseal® septum head.
- 450 °C maximum operating temperature.
- Total flow setting range:
 - 0 to 200 mL/min N₂
 - 0 to 1,000 mL/min H₂ or He

VI

- Very low volume (32 μ L) interface suitable for gas or prevaporized samples. Recommended for use with headspace, purge and trap, or thermal desorption samplers.
- Three modes for optimized sample introduction: split (up to 100:1 split ratio), splitless, and direct.
- Optimized EPC (H₂ or He carrier, 0.00 to 100 psig pressure control, 0.0 to 100 mL/min flow control).
- Silcosteel® treated flow path provides inert surface for minimum component adsorption.
- Maximum temperature: 400 °C.

Detectors

All detectors include EPC and electronic on/off for all detector gases. Two channel electronic column bleed compensation is standard.

Specialized detectors are available through Agilent Channel Partners including: atomic emission, Helium ionization, sulfur chemiluminescence and pulsed discharge ionization.

Detectors available:

- Flame ionization detector (FID) which responds to most organic compounds.
- Thermal conductivity detector (TCD), a universal detector that responds to all compounds, excluding the carrier gas.

- Micro-electron capture detector (micro-ECD), a very sensitive detector for electrophilic compounds such as halogenated organic compounds.
- Nitrogen-phosphorus detector (NPD), a detector specific to nitrogen or phosphorous-containing compounds.
- Single- or dual-wavelength flame photometric detectors (FPD), a sensitive, specific detector to sulphur or phosphorous containing compounds.

FID

- Minimum detectable level (for tridecane): <1.8 pg C/s.
- Linear dynamic range: $>10^7$ ($\pm 10\%$). Digital data makes entire range available without range changes.
- Data rates up to 200 Hz accommodate peaks as narrow as 25 ms at half height.
- Standard EPC for three gases:
 - Air: 0 to 800 mL/min
 - H₂: 0 to 100 mL/min
 - Makeup gas (N₂ or He): 0 to 100 mL/min
- Available in two versions: capillary column optimized or adaptable for either packed or capillary columns.
- Flame out detection and automatic reignition.
- Grounded jet.
- 450 °C maximum operating temperature.

TCD

- Minimum detectable level: 400 pg propane/mL with He carrier. (This value may be affected by laboratory environment.)
- Linear dynamic range: $>10^5 \pm 5\%$.
- Unique fluidic switching design provides rapid stabilization from turn-on, low-drift performance.
- Signal polarity can be run-programmed for components having higher thermal conductivity than the carrier gas.
- Maximum temperature: 400 °C.

- Standard EPC for 2 gases (He, H₂, Ar, or N₂ – matched to carrier gas type).
- Makeup gas: 0 to 12 mL/min.
- Reference gas: 0 to 100 mL/min.

Micro-ECD

- Minimum detectable level: <6 fg/mL lindane.
- Proprietary signal linearization
Linear dynamic range: >5 × 10⁴ with lindane.
- Data acquisition rate: up to 50 Hz.
- Uses β emission of <15 mCi ⁶³Ni as the electron source.
- Unique micro-cell design minimizes contamination and optimizes sensitivity.
- 400 °C maximum operating temperature.
- Standard EPC makeup gas types: argon/5% methane or nitrogen; 0 to 150 mL/min.
- Dynamic range: >5 × 10⁵ with lindane.

NPD

- MDL: <0.4 pg N/s, <0.2 pg P/s with azobenzene/malathion/octadecane mixture.
- Dynamic range: >10⁵ N, >10⁵ P with azobenzene/malathion/octadecane mixture.
- Selectivity: 25,000 to 1 gN/gC, 75,000 to 1 gP/gC with azobenzene/malathion/octadecane mixture.
- Data acquisition rate: up to 200 Hz.
- Standard EPC for three gases:
 - Air: 0 to 200 mL/min
 - H₂: 0 to 30 mL/min
 - Makeup gas: 0 to 100 mL/min
- Available for packed/capillary columns or optimized for capillary columns.
- 400 °C maximum operating temperature.

FPD

- MDL: <60 fg P/s, <3.6 pg S/s with methylparathion.

- Dynamic range: >10³ S, 10⁴ P with methylparathion
- Selectivity: 10⁶ gS/gC, 10⁶ gP/gC.
- Data acquisition rate: up to 200 Hz.
- Standard EPC for three gases:
 - Air: 0 to 130 mL/min
 - H₂: 0 to 300 mL/min
 - Makeup gas: 0 to 130 mL/min
- Available in single- or dual-wavelength versions.
- 250 °C maximum operating temperature.

MSD

See MSD Specifications, "Agilent 5975 Mass Selective Detector," Publication 5988-3012EN.

ALS Interface Module

- 7683 ALS Interface standard. Provides power and communications for up to two 7683 automatic injectors, one automatic sampler tray, and one bar code reader.
- Injector and tray install easily without the need for alignment.

Data Communications

- LAN
- RS-232-C (57,600 baud maximum is settable from keyboard)
- Two analog output channels of 1-mV, 1-V, and 10-V, for a total of 6 outputs are standard
- Remote start/stop
- Keyboard control of the Agilent automatic liquid sampler (ALS)
- Storage of nine methods
- Storage of five ALS sequences
- Binary-coded decimal input for a stream selection valve
- Context-sensitive online help

Maintenance and Support Services

- Online service manual and parts diagrams
- Remote diagnostics

- Performance verification services

Environmental Conditions/ Safety and Regulatory Certifications

The instrument is designed and manufactured under a quality system registered to ISO 9001. The instrument complies with international regulatory, safety, and electromagnetic compatibility requirements. The specifications are more conservative than actual test conditions. In addition, further testing was done under Agilent standards to assure operation after delivery and long-term usage. See <http://www.chem.agilent.com/cag/aboutapg/aboutQuality.html> for further information and typical product testing.

- Ambient operating temperature: 15 °C to 35 °C
- Ambient operating humidity: 5% to 95%
- Storage extremes: -40 °C to 65 °C
- Line voltage requirements: ±5% of nominal

Conforms to the following safety standards:

- Canadian Standards Association (CSA): C22.2 No. 1010
- CSA/Nationally Recognized Test Laboratory (NRTL): UL 3101
- International Electrotechnical Commission (IEC): 61010-1
- EuroNorm (EN): 61010-1

Conforms to the following regulations on Electromagnetic Compatibility (EMC) and Radio Frequency Interference (RFI):

- CISPR 11/EN 55011: Group 1 Class A
- IEC/EN 61326

Designed and manufactured under a quality system registered to ISO 9001, Declaration of Conformity available.

Other Specifications

- Height: 50 cm (19.7 in)
- Width: 58 cm (22.8 in) with EPC inlet and detectors; 68 cm (26.8 in) with manual inlets or detectors or with optional gauges
- Depth: 54 cm (21.6 in) Average weight: 49 kg (108 lb)
- Clock time programming
- Run deviation log (notes any changes to setpoints or expected values during a run, saved with run file in ChemStations)
 - Promote control of eight external events (valves, on/off, or low-level contact)
- Four internal 24-volt connections (up to 150 mA)
- Two external 24-volt connections (up to 75 mA)
- Two on/off contact closures (48 V, 250 mA max)

References

1. A Guide to Interpreting Detector Specifications for Gas Chromatography. Agilent Technologies, publication 5989-3423EN, www.agilent.com/chem
2. A Guide to the Retention Time and Area Reproducibility Specifications. Agilent Technologies, publication 5989-3425EN, www.agilent.com/chem

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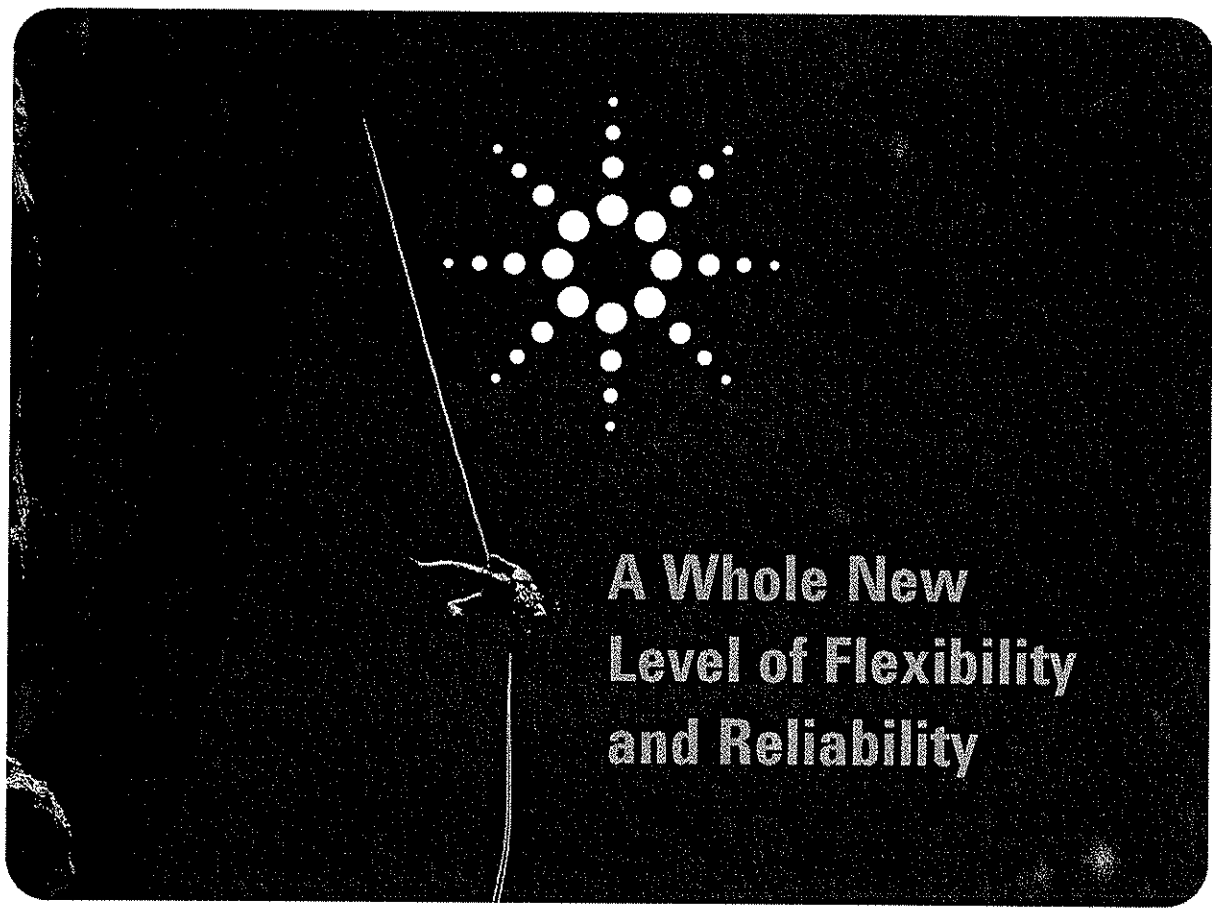
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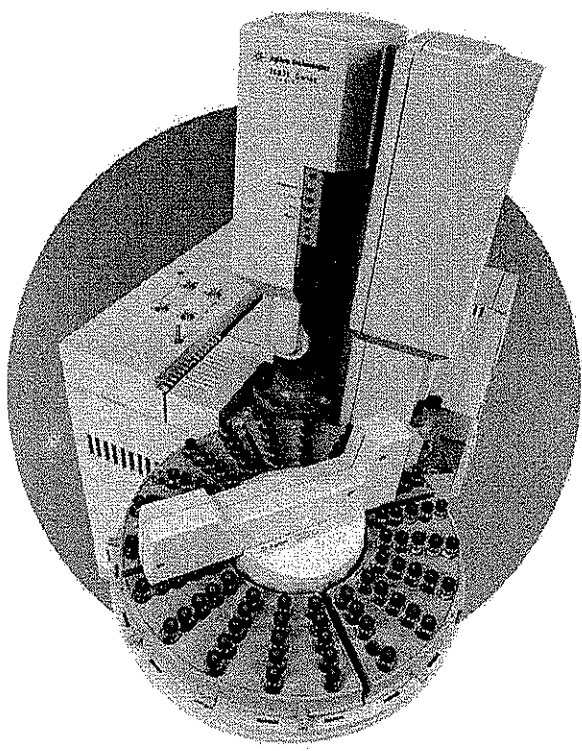
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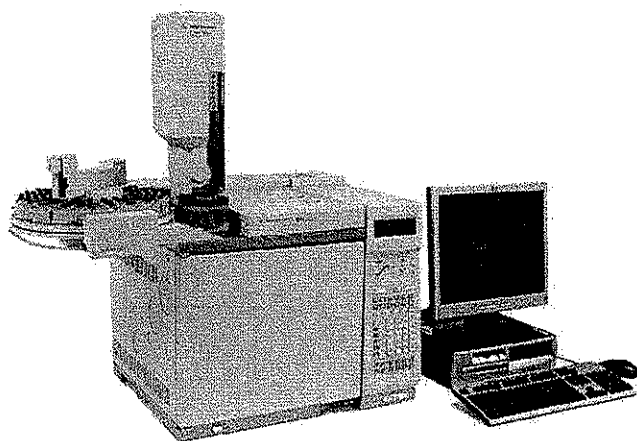


**A Whole New
Level of Flexibility
and Reliability**



**Agilent 7683 Series
Automatic Liquid Sampler**

- *Fastest injection in the industry*
- *Lower detection limits for trace analysis*
- *Greater solvent capacity*
- *Dual simultaneous injection*
- *Plug and play installation*



The Agilent 7683 Series Automatic Liquid Sampler (ALS) is designed to work seamlessly with 6890 Plus and 6890N GCs. The injector tray and bar code reader connect without the need for a controller box and separate power cords and outlets, reducing the number of cables required.

The new G2914A ALS controller interfaces the 7683A and new 7683B autoinjectors to earlier 5890 Series II and 6890A GCs. A 100-vial tray can also be added to the 5890 Series II and 6890A GCs.

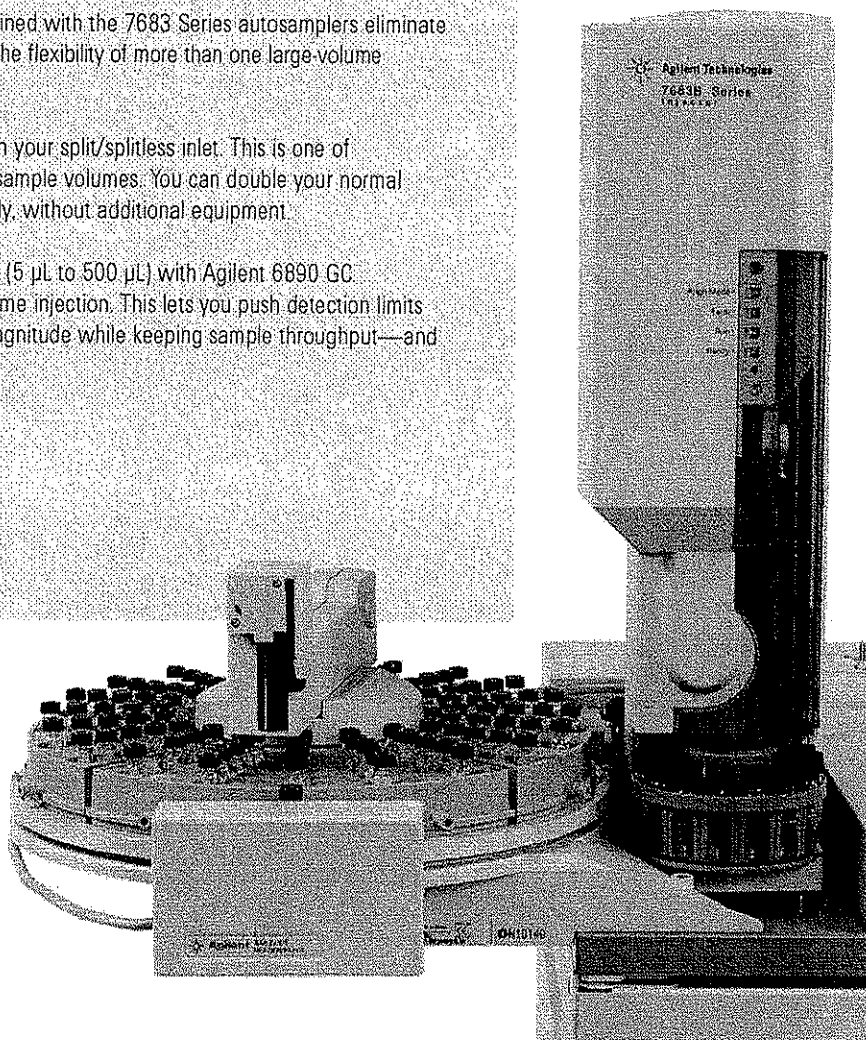
Agilent's 6890 Series GC Systems — Your Problem Solvers

Today's detection requirements can challenge even the most selective and sensitive gas chromatograph (GC) detectors. A practical, time-saving solution is to introduce more sample into the GC column. The trouble is, large volumes of solvent can cause severe band broadening, peak deformation and column or detector damage.

Agilent's 6890 GC systems combined with the 7683 Series autosamplers eliminate such problems and also give you the flexibility of more than one large-volume injection option.

- You can use a pressure pulse with your split/splitless inlet. This is one of the easiest ways to inject larger sample volumes. You can double your normal injection volume quickly and easily, without additional equipment.
- You can introduce larger samples (5 μ L to 500 μ L) with Agilent 6890 GC systems configured for large-volume injection. This lets you push detection limits down by one or two orders of magnitude while keeping sample throughput—and the quality of results—high.

Increased Productivity with
Dual Simultaneous Injection



Unmatched reproducibility and productivity

Agilent Technologies' 7683 Series Automatic Liquid Sampler raises the standard for gas chromatography (GC) system performance and reliability.

This next-generation Agilent 7683B autoinjector for the Agilent 6890N network gas chromatography system offers all the features of our popular Agilent 7683A autoinjector and more.

The 7683 Series ALS is the system to have for:

- Accuracy and ease of use
- Superior reproducibility, with minimal rework
- Reliable results year after year
- Plug and play installations
- Dual simultaneous injection
- Increased solvent capacity and solvent saver mode
- Priority sampling

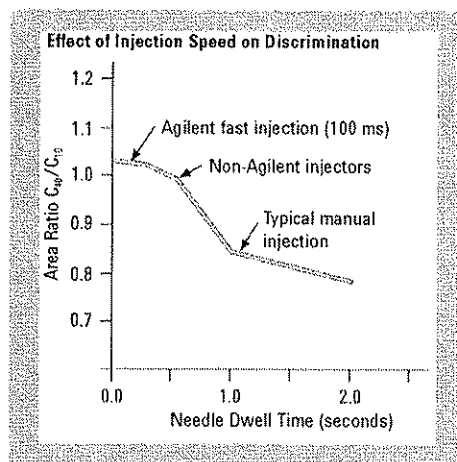
The fastest injection speed in the industry, for accuracy with ease.

The Agilent 7683B autoinjector delivers the fastest injection speed in the industry — at least five times faster than other automatic liquid samplers on the market today. Fast injection, pioneered by Agilent, minimizes needle discrimination without introducing the complexity and large solvent volumes of sandwich injection and other less reliable injection techniques.

The result is a significant reduction in 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.

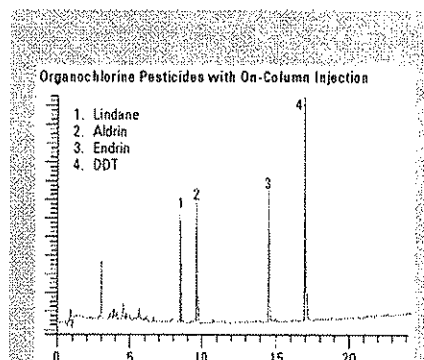
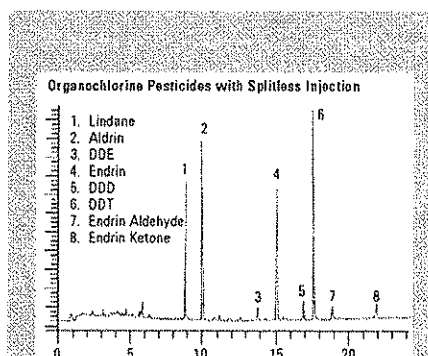
Fast injection also simplifies quantitation by enabling the use of external standards.

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

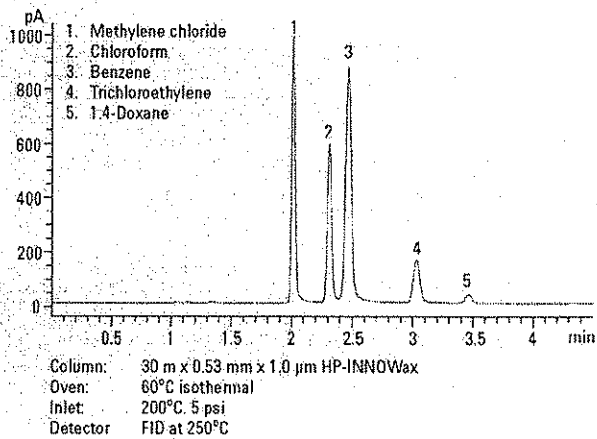
Automated direct cool on-column injection into 320- μm and 250- μm columns eliminates the thermal degradation products (peaks 3, 5, 7 and 8) seen in the upper chromatogram. No one else offers the precision required to inject directly into such small inner diameter columns.

Flexibility second to none

The Agilent 7683 Series 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 variable speed injection for large-volume injection to increase 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.
- Ability to use 7683 Series autoinjectors on 6850, 5890 Series II, and any 6890 Series GC.
- 100-vial tray for any 6890 Series GC.
- A special 7683B 100-vial tray for 5890 GCs that is upgradeable for 6890N usage.

In addition, methods developed using the Agilent 7673 ALS and any 7683 Series ALS are seamlessly transferred to the system using the new 7683B autoinjector.

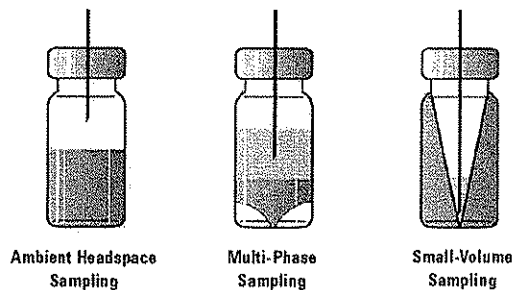
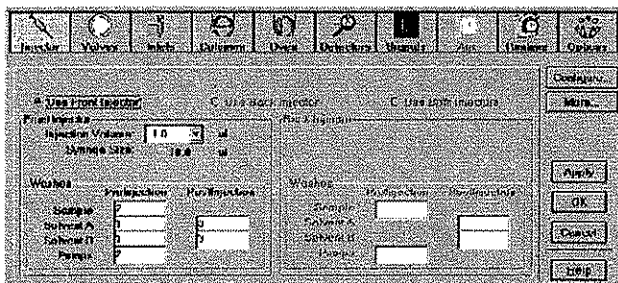


Ambient Headspace Analysis

Ambient headspace analysis eliminates sample preparation. The Agilent 7683 autoinjector can sample up to 50 μL of the headspace 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.

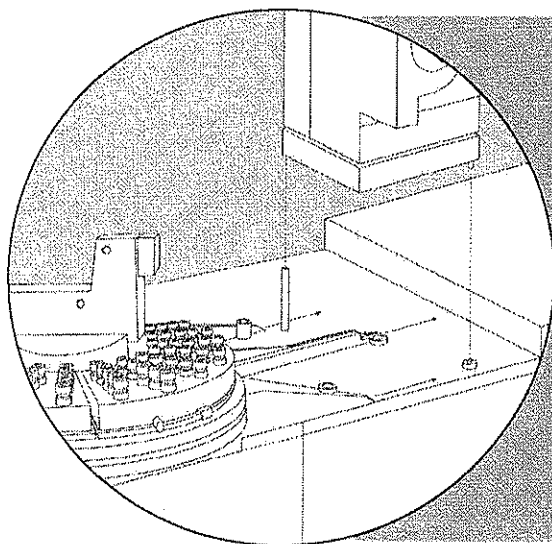
Multiple Control Options

Various control options include the Agilent 6890N network GC keyboard, the Agilent GC ChemStation, the Certity Networked Data Systems, the Agilent MSD ChemStation and an Agilent integrator.



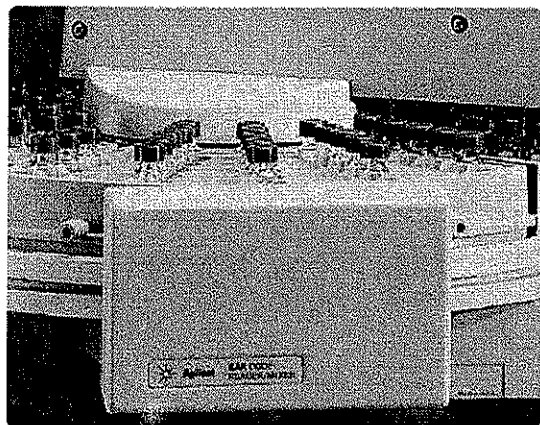
Sampling Flexibility

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



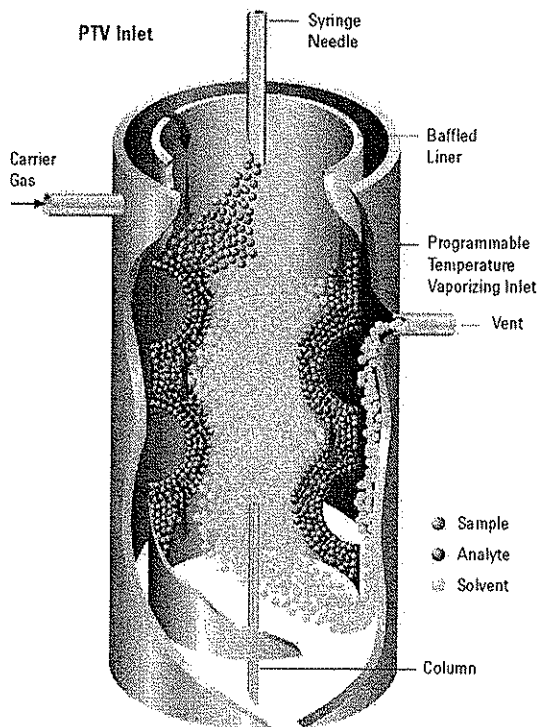
Fast and Easy Sampler Installation

The modular design of the Agilent 7683 Series 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.



Simple and Defensible Sample Identification

A sample identification module electronically transfers a bar code reading of each sample to the Agilent GC ChemStation, Agilent MSD ChemStation, Cerity NDS for Pharmaceutical QA/QC, 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.



A Flexible, Robust Technique

Combined with variable speed and large-volume injection, the PTV is excellent for complex sample matrices and late eluters. The PTV is particularly useful for trace analysis of pesticides and PAHs in food extracts, biological fluids and wastewater extracts. A high flow of carrier gas evaporates the solvent inside the cooled inlet liner, causing the semi-volatile compounds to concentrate there.

Reproducibility, flexibility and unattended operation that reduce your costs.

Reproducibility that minimizes rework

The Agilent 7683 Series 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.

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. In addition, individual quadrants on the tray can be cooled to subambient temperatures to protect sensitive samples even further.

All in all, the many innovations made to Agilent's 7683 Series ALS make for unprecedented reliability.

A modular design that accommodates changing workloads

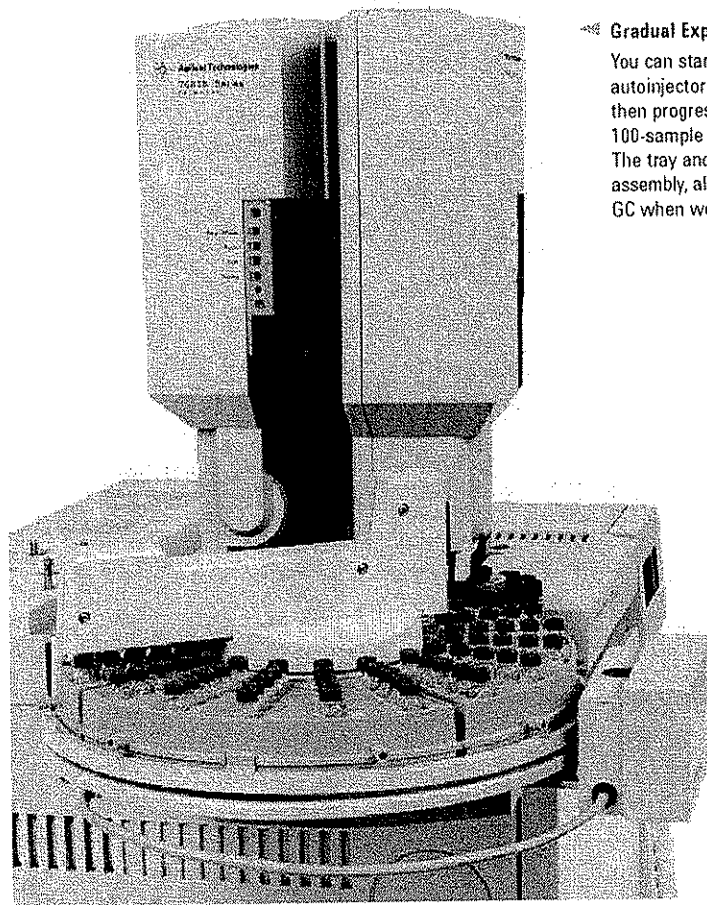
The Agilent 7683 Series ALS system has a modular design, giving you flexibility you cannot get with a built-in automatic liquid sampler. You decide how much automation you need and can afford.

The same 7683 tray can be used with either the 7683A or 7683B autoinjector. Furthermore, either or both autoinjectors can be used for dual simultaneous injection on any 5890 Series or any 6890 GC system.

Increased periods of unattended operation

The new 7683B autoinjector design gives you twice the solvent and solvent waste capacity of its predecessor, the 7683A autoinjector.

What's more, the new solvent-saving mode enables you to quadruple the wash capacity of your solvent. This means you save in solvent purchases and waste disposal, and increase productivity with extended periods of unattended operation.



Gradual Expansion as Needs Change

You can start with an Agilent 7683B 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 workloads change.

Maximum Throughput

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

Agilent has products and experience to help you get the results you need.

When you buy columns and supplies from Agilent, you're buying more than just products. Agilent has GC, LC and MS instrument design experience, and the consistent consumables quality and expertise to help you get the reproducible results you need. On the Web, on the phone, or in person, Agilent has the columns, supplies and technical information to help you avoid problems and address challenges you may face in your lab.

Vials & Caps for Autosampler Optimum Performance

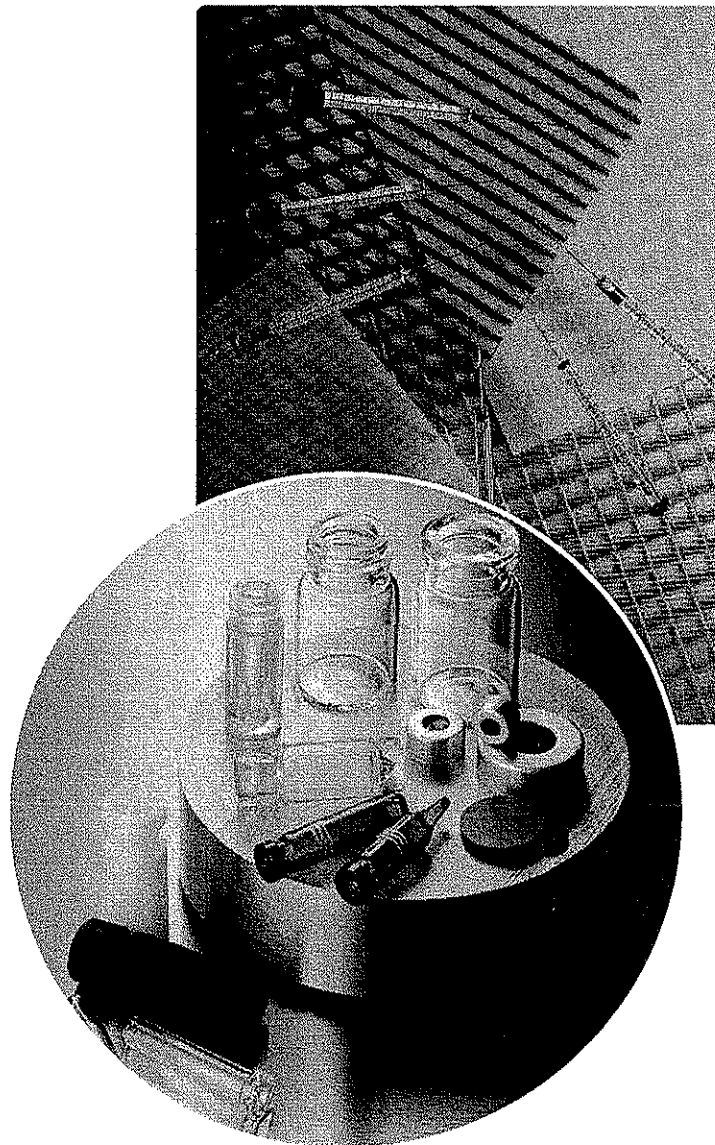
Agilent sets the standard for consistency and control with a diverse range of accessories.

Vials:

- Glass for general purpose use
- Amber for light-sensitive samples
- Silanized/Deactivated for samples that can bind to glass and for trace analysis
- Polypropylene for alcohols and aqueous solvents
- Microvolume inserts for very small injection volumes
- High recovery for limited sample volume
- New! Headspace screwtop 20 mL clear vials

Electronic Crimper and Decapper

- The only electronic products available on the market
- For high-throughput labs
- Helps prevent wrist pain and injuries
- 11 and 20 mm sizes
- VersaPak Gold NiMH rechargeable battery





For more information

For more information about the Agilent 7683 Series Automatic Liquid Sampler or other Agilent products and services, visit us online or call toll free:

www.agilent.com/chem

1-800-227-9770 (in the U.S. and Canada)

In other countries, please call your local Agilent Technologies analytical sales office or authorized Agilent Technologies distributor.

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5989-0972EN

World's best service and support

The Agilent 7683 Series Automatic Liquid Sampler is designed for ultimate reliability, but when you need support, Agilent's Worldwide Support Organization provides the industry's best-ranked support services. You choose from a variety of service options, including industry-specific support packages, phone support and a la carte services. With every 7683B, Agilent protects your investment by offering the Agilent Value Promise below.

The Agilent Value Promise— ten years of guaranteed value

The Agilent 7683 Series Automatic Liquid Sampler is backed by the Agilent Value Promise. This promise guarantees you at least ten years' use of your 7683 Series system, from the date of purchase, or Agilent will credit you with the residual value of the system when you upgrade to a replacement model. The Agilent Value Promise translates into a safe purchase with the assurance that Agilent will stand behind its systems to maximize your return on investment.

Agilent's Alliance Partners offer even more solutions

Agilent has teamed with a number of trusted Alliance Partners to address even more application areas. These partners design and manufacture complementary hardware and software products or add to Agilent's product offerings to bring you application-specific laboratory solutions.

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- Free firmware and software updates
- Faster registration for free e-Seminars and other training



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