

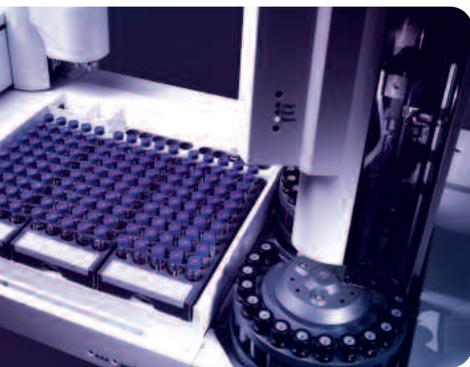
# The Agilent Instrument & Accessories Catalog

Life Sciences & Chemical Analysis  
2009-2010 Edition

Our measure is your success.



Agilent Technologies



Dear Valued Customer,

Now, more than ever, labs are under pressure to do more work with fewer resources, without sacrificing quality. At Agilent, our job is to recognize customers' challenges and provide the tools and support they need to succeed in these challenging times.

This is why we are pleased to present the *2009-2010 Edition of the Agilent Instrument & Accessories Catalog*. It's more than a collection of hardware and specifications. It represents years of working closely with our customers and thoughtful product development and enhancement to meet your real-world requirements.

Inside you'll find Agilent instruments, accessories and software designed for productivity and precision. We encourage you to contact your local Agilent office or Authorized Agilent Distributor with any questions, to request a quotation or to place an order.

We also encourage you to visit [www.chem.agilent.com](http://www.chem.agilent.com) for the latest product information, applications and special offers.

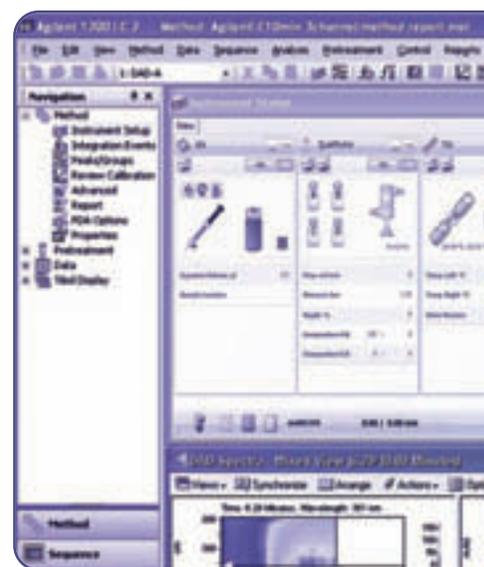
Sincerely,

A handwritten signature in black ink that reads "Lon Justice".

Lon Justice  
Vice President and General Manager  
Global Sales, Marketing and Services  
Life Sciences and Chemical Analysis

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# Agilent Solutions for Chemical Analysis and Life Sciences

Whether customers need tools for routine chemical analyses or the most complex biological experiments, at Agilent we know that success is based on delivering high-confidence results.

This begins with rugged, reliable instruments. It continues with well-designed software and perfectly matched columns and supplies. And it's built on a foundation of strong technical support and services.

An important focus at Agilent is increasing instrument productivity. We're continuously devising ways to increase throughput, often without the need to change methods. A good example of this is Capillary Flow Technology, enabling a number of GC applications that save time and improve results without altering the basic chromatographic run.

These days, most laboratories need to do more with less: To run more samples per shift without adding bench space or people. To maximize instrument utilization. To minimize maintenance costs. We help them attain these goals and more by addressing their complete workflows. Because true gains are achieved only by eliminating bottlenecks, not by merely moving them.

## Chemical Analysis Solutions



### Food

From high-volume screening of vegetables for pesticides through detection of genetically-modified products, Agilent understands the analytical needs of food producers, shippers and regulators. When a new contaminant appears, we deploy substantial resources to quickly help customers develop robust, reliable methods.



### Forensics

Because the futures of world class athletes and many other individuals hinge on drug testing, it's critical that those doing the testing have the highest level of confidence in their results. Forensics analysts worldwide have grown to depend on Agilent tools for accuracy, reliability and speed in this high-stakes, high-throughput field. Our best selling GC, GC/MS and popular LC and LC/MS are workhorses in forensics labs.



### Environmental

Agilent offers more than 40 years of environmental analysis and regulatory expertise. We help government and private labs with a full range of assays, from routine testing of soils for heavy metals through detection of pharmaceuticals in groundwater in concentrations down to parts-per-trillion.



### Lab Informatics

The way labs generate and store data profoundly affect their efficiency. Agilent offers a comprehensive selection of software, ranging from industry-leading instrument control capabilities in our data systems through an innovative operating system for the laboratory that provides a fully searchable archive for all data, regardless of file type.



### Hydrocarbon Processing and Petroleum

Agilent closely collaborates with process industry customers to offer analytical systems to meet their needs for separation, detection, throughput and support. We'll even preconfigure custom or standard analyzers so they arrive at the lab ready-to-go. Agilent offers useful innovations such as Low Thermal Mass GC and Capillary Flow Technology that greatly increase sample throughput and facilitate challenging applications such as simulated distillation.

# Life Science Solutions



## Biopharmaceutical

To help ensure safer, high-efficacy biotherapeutic products, Agilent provides an enhanced portfolio of reliable, analytical workflow solutions that deliver superior sensitivity and selectivity, high productivity and maximum value. Powerful software tools streamline and simplify data evaluation, management and informatics needs in a fully compliant environment.



## Pharmaceutical

Drug discovery, development and manufacturing requires the accuracy, sensitivity and high throughput of other analytical applications, with the added demands of regulatory record-keeping and validation requirements. Agilent provides a potent combination of rugged, high-throughput tools along with unmatched compliance services.



## Lab Automation

To meet the increasing demand for more throughput and automation, Agilent has substantially expanded its lab automation offerings. The portfolio of liquid handlers and microplate processors are designed to streamline high-volume life science workflows. Agilent is also continually upgrading its advanced autosamplers for GC, GC/MS, LC and LC/MS, adding functionality and speed to reflect the performance of its advanced instruments.



## Metabolomics

Studying metabolomics in biological samples presents many challenges. Molecules are constantly entering, leaving or changing within the metabolome, underscoring the need for speed, accuracy and powerful interpretation capabilities in looking at chemical profile snapshots. Agilent's GC/MS and LC/MS portfolios align very well with the needs of metabolomics researchers, along with leading bioinformatics offerings for identification and statistical analysis.



## Life Science Informatics

Agilent offers the industry's most extensive portfolio of bioinformatics software, helping users derive knowledge from complex genomic, proteomic, metabolomic and other biologic data. The GeneSpring suite includes informatics software for microarray-based gene expression, genotyping and mass spectrometry. GeneSpring MS is used for analyzing mass spec data from proteomics and metabolomics experiments. Additionally, Agilent offers DNA Analytics for analyzing CGH, CHIP and methylation microarray data. Scientists can compare complex datasets to explore biological questions from multiple perspectives.



## Genomics

Agilent is a global leader in microarrays, scanners, and reagents used in a wide variety of genomic-based disease research experiments. We offer a wide range of catalog arrays and a highly-developed capability to produce custom arrays thanks to ink jet-based SurePrint fabrication and the eArray on-line design tool. All Agilent microarrays feature highly-sensitive, selective 60 mer probes. With as many as eight arrays printed on a standard 1 inch x 3 inch slide, the cost per experiment becomes very affordable.



## Proteomics

Your proteomics research goals need to be met by complete, optimized and accessible workflows for fast, accurate and reproducible results. Agilent's portfolio of LC/MS and bioinformatics systems, multiple affinity protein removal columns, and OFFGEL electrophoresis provides the highest analytical performance with unprecedented flexibility. Our robust, interchangeable workflows simplify setups and let you quickly switch between different methodologies to complete your research faster, with greater confidence.



## A higher level of GC reliability, productivity and confidence

Adding an exciting new chapter to a 40 year history of GC leadership, Agilent's flagship 7890A GC gives you everything you need to take your lab to the next level of GC and GC/MS performance. The system brings important new analytical and productivity features to the Agilent GC platform, including advanced separation capabilities, simplified routine maintenance and real-time self-monitoring instrument intelligence. Plus, legendary Agilent reliability.

# Agilent GC and GC/MS Solutions

## Agilent 7890A Series GC System

### Agilent Performance and Reliability

- 5th-generation electronic pneumatics control (EPC)
- Advanced digital electronics

### Expanded Chromatographic Capabilities

- Highly flexible EPC design enables more sophisticated analyses
- Optional third detector (TCD) can speed up complex gas analyses, and allows more types of analyses to be run on a single GC
- Fully compatible with Agilent Capillary Flow Technology
- New Multimode Inlet used as split/splitless inlet or with temperature programming and large volume injection capabilities

### Higher Productivity

- Faster oven cool down and faster GC/MS oven ramps
- Robust backflush capability
- Advanced automation capabilities

### Easier Operation

- Powerful, chromatographer-friendly software simplifies method setup and system operation and minimizes training time
- Practical, time-saving design features speed up and simplify routine maintenance
- Automated monitoring and diagnostics software tracks consumables usage, monitors chromatographic quality and alerts you to problems before they happen
- Easy, direct method transfer from Agilent 6890 GC

### Agilent 7890A Series GC System

Description	Part No.
7890 Gas Chromatograph Mainframe	G3440A
7890 GC bundle for 5975 Series GC/MSD, includes split/splitless inlet and MSD interface	G3442A





## Agilent GC Inlets and Inlet Systems

A broad range of GC inlets and inlet systems

### **Split/Splitless**

For 0.32, 0.25 and 0.10 mm capillary columns and 0.53 mm megabore columns

### **Packed**

For glass and metal 1/4 and 1/8 inch packed columns and 0.53 mm megabore capillary columns

### **Cool On-Column**

Temperature programmable cool on-column for direct liquid injection minimizes discrimination during injection and separates low boiling point constituents selectively

### **Valves**

The reproducible way to introduce gaseous samples to 7890 and 6890 GCs; Call for details

### **Multimode Inlet (7890 GC only)**

Use as a split/splitless, PTV inlet and more; Capabilities include temperature programming and large volume injection to enhance sensitivity, minimize sample decomposition and eliminate needle discrimination

### **Programmable Temperature Vaporizing (PTV)**

Perform large volume injections for low minimum detection limits and less thermal degradation of labile compounds

### **Volatiles Interface**

Facilitates trace level detection of pre-vaporized samples

### **Turn Top – The Easiest Way to Change Inlet Liners (7890 GC only)**

Agilent's Turn Top Inlet Sealing System for 7890 GC is already built into Agilent's Split/Splitless and Multimode inlets; The user can safely and reliably change an inlet liner in as little as 30 seconds without tools

### **Flip Top – The Easiest Way to Change Inlet Liners (6890 and 6850 GC only)**

Agilent's Flip Top Inlet Sealing System for the 6890/6850 GC is a device designed to allow the user to safely and reliably change an inlet liner in as little as 30 seconds without tools; Available exclusively from Agilent



### Turn Top Inlet Sealing System

Convenient new turn top design is built into every 7890 Split/Splitless and Multimode Inlet, allowing you to change liners in less than 30 seconds without special tools or training.

### Agilent GC Inlets and Inlet Systems

Description	7890 Part No.	7890 Option No.	6890 Part No.
Split/Splitless 100 psi capillary injection port	G3452A	G3440A #112	G1552A
Split/Splitless 150 psi capillary injection port	G3460A	G3440A #113	G1560A
Packed column injection port	G3451A	G3440A #102	G1551A
Cool On-Column capillary injection port	G3454A	G3440A #122	G1554A
Multimode inlet with septum head for use with liquid CO <sub>2</sub>	G3510A	G3440A #150	
Multimode inlet with septum head for use with liquid N <sub>2</sub>	G3511A	G3440A #151	
PTV inlet with septumless head for use with liquid CO <sub>2</sub>	G3500A	G3440A #130	G2617A
PTV inlet with septum head for use with liquid CO <sub>2</sub>	G3501A	G3440A #131	G2618A
PTV inlet with septumless head for use with liquid N <sub>2</sub>	G3502A	G3440A #132	G2619A
PTV inlet with septum head for use with liquid N <sub>2</sub>	G3503A	G3440A #133	G2620A
Volatiles interface	G3504A	G3440A #142	G2319A
Flip Top Inlet Sealing System			5188-2717



### Agilent Inlet Convenience Kits

Convenience kits are an easy way to get all the supplies you need using one part number. Agilent's new PM kits include septa, liners, o-rings, gold seals and traps.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



## Agilent GC Detectors

A comprehensive selection of detectors

### Flame Ionization Detector (FID)

- Designed for maximum sensitivity and ease of use, the most popular and versatile detector
- Flame that can be ignited from keyboard or automatically
- Full digital linear dynamic range ( $10^7$ ) in a single run

### Thermal Conductivity Detector (TCD)

- Universal detector responds to all compounds, excluding carrier gas
- Single-filament, single-column design

### Micro Electron Capture Detector (ECD)

- Micro ECD designed for better linearity, sensitivity and reduced susceptibility to contamination
- Nickel plating on the inner surface of the lower cell body to reduce adsorption and degradation of sensitive compounds
- Anode purge to extend cell lifetime

### Nitrogen Phosphorous Detector (NPD)

- Optimized selectivity and sensitivity for nitrogen- and phosphorus-containing compounds
- NPD with Blos bead offers robust operation, better stability and longer bead lifetime
- Bead is digitally set from the keyboard and is auto-correcting

### Flame Photometric Detector (FPD)

- Selective for sulfur- or phosphorus-containing organic compounds
- Dual wavelength FPD can detect both sulfur and phosphorus in the same run



## New BloS Bead for NPD

- Superior bead lifetime
- Faster attainment of stable operation at initial start-up, as well as more stable operation throughout bead's lifetime
- Superior sensitivity and selectivity for phosphorous-containing compounds
- Similar sensitivity and selectivity for nitrogen-containing compounds
- Superior immunity to moisture

## Agilent GC Detectors

Description	7890 Part No.	7890 Option No.	6890 Part No.
Flame Ionization Detector for packed and capillary use	G3461A	G3440A #210	G1561A
Flame Ionization Detector capillary optimized	G3462A	G3440A #211	G1562A
Thermal Conductivity Detector	G3432A	G3440A #220	G1563A
Micro Electron Capture Detector	G2397AD	G3440A #231	G2397A
Flame Photometric Detector	G3435A	G3440A #240	G2333A
Dual Wavelength Flame Photometric Detector	G3436A	G3440A #241	G2334A
Nitrogen Phosphorus Detector for packed and capillary use	G3495A	G3440A #250	G1575A
Nitrogen Phosphorus Detector for packed and capillary use with BloS Bead	G3463A	G3440A #252	
Nitrogen Phosphorus Detector capillary optimized	G3496A	G3440A #251	G1576A
Nitrogen Phosphorus Detector capillary optimized with BloS Bead	G3464A	G3440A #253	

All detectors come standard with EPC for precise digital control of carrier and make-up gases for accuracy and reduced gas consumption.



## Agilent 255 Nitrogen Chemiluminescence Detector (NCD)

### Sensitive, selective nitrogen detection

The Agilent Nitrogen Chemiluminescence Detector (NCD) is the world's most sensitive and selective chromatographic detector for nitrogen-containing compounds. It uses a Dual Plasma Burner to achieve high temperature combustion of nitrogen-containing compounds to form nitric oxide (NO); a photomultiplier tube detects the light produced by the subsequent chemiluminescent reaction of NO with ozone. Because of the specificity of the reaction, complex sample matrices can be analyzed with little or no interference.

#### Enhanced performance and ease of use

- PPB-level detection limits
- No hydrocarbon quenching
- Linear, equimolar response to organic nitrogen compounds; also responds to ammonia, hydrazine, hydrogen cyanide, and NO<sub>x</sub>
- Dual Plasma Burner and Controller also provides an embedded nitrosamines option
- Adapters for simultaneous NCD and FID operation

#### Agilent 255 Nitrogen Chemiluminescence Detector (NCD)

Description	Part No.
NCD dual plasma system with dry pump	G6600A
NCD dual plasma system with oil pump	G6601A



#### Supplies for Nitrogen and Sulfur Chemiluminescence Detectors

Agilent offers a complete selection of parts and supplies for the NCD and SCD detectors.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



## Agilent 355 Sulfur Chemiluminescence Detector (SCD)

### Sensitive, selective sulfur detection

The Agilent Sulfur Chemiluminescence Detector (SCD) is the most sensitive and selective chromatographic sulfur detector available. It uses a Dual Plasma Burner to achieve high temperature combustion of sulfur-containing compounds to form sulfur monoxide (SO); a photomultiplier tube detects the light produced by the chemiluminescent reaction of SO with ozone. This results in a linear and equimolar response to the sulfur compounds without interference from most sample matrices.

### Enhanced performance and ease of use

- Detection limits at ppb-level
- No hydrocarbon quenching
- Linear, equimolar response to sulfur compounds
- ASTM Methods approval
- Adapters for simultaneous SCD and FID operation

### Agilent 355 Sulfur Chemiluminescence Detector (SCD)

Description	Part No.
SCD dual plasma system with dry pump	G6602A
SCD dual plasma system with oil pump	G6603A



## Small device, big boost in productivity

Agilent's easy-to-use Capillary Flow Technology elegantly solves a problem chromatographers have been wrestling with for decades: How to make reliable, leak-free capillary connections that can stand up to the temperature extremes of a GC oven.

These inert, low-mass, low-dead volume devices not only make it easy to make secure connections, they also give you the ability to precisely divert your gas flow pneumatically, where and when you want. This opens the door to highly useful techniques that can improve your analytical results, as well as saving time and resources.

Capillary Flow modules are available in a variety of useful configurations that can be added to your Agilent 7890A or 6890 GC system.

## Capillary Flow Technology

### Backflushing

- Improves data quality for better analytical results
- Reduces cycle time by eliminating long bake-out times for highly-retained compounds
- Reduces maintenance and lowers operating costs by protecting columns and detectors

### Deans Switch

- Enables two-dimensional GC ("heart-cutting")
- Allows for lower detection limits of trace compounds in complex matrices
- Allows for backflushing

### QuickSwap

- Allows safe disconnection of GC column without venting mass spectrometer and without losing vacuum
- Lets you change columns in about 30 seconds
- Allows for backflushing

### Flow Splitting

- Sends sample to multiple detectors to maximize information from a single run
- Helps locate peaks of interest faster, and achieve better integration of target peaks
- Use of multiple detectors provides higher confidence when identifying unknowns
- Allows for backflushing

### Capillary Flow Technology

Description	Part No.	7890 Option No.
Deans switch	G2855B	G3440A #888
Splitter with makeup gas	G3180B	G3340A #889
3-way splitter with makeup gas	G3183B	G3440A #890
MSD QuickSwap	G3185B	
Union, purged (at midpoint) Allows backflush between 2 columns in series	G3186B	
Flow modulator accessory (for GC X GC analysis)	G3486A	
Flow modulator checkout kit	G3487A	
Splitter, unpurged	G3181B	
Unpurged tee for MSD transfer line	G3184B	
Unpurged union, plate design	G3187B	
Oven wall bracket for Capillary Flow Technology plate devices	G2855-60120	
Mounting bracket for G3187B (for up to 4 CFT plates)		
Ultimate union kit, deactivated	G3182-61580	
Column connector with oven mounting bracket		
1/16 inch tube assembly kit Connection from GC valve to CPM system	G1580-61060	



The Agilent LTM System consists of a replacement door for either the Agilent 7890 or the Agilent 6890 that has built-in electronics and slots for inserting from 1 to 4 GC column modules. Programming can be done via Agilent ChemStation software or using a simple keypad control user interface. Up to 10 methods may be stored.

## Agilent LTM Rapid Heating/Cooling System for Gas Chromatography

### Increases productivity by reducing GC cycle times

To address the growing need for increased GC productivity, Agilent LTM (Low Thermal Mass) technology interweaves a fused silica capillary column with separate strands of heating, temperature sensing and insulating elements to form an out-of-oven LTM column module. Without the thermal mass of the oven walls and door, the LTM module heats and cools the column much more efficiently and more quickly – allowing significantly shorter analytical cycle times than with a conventional air-bath GC oven.

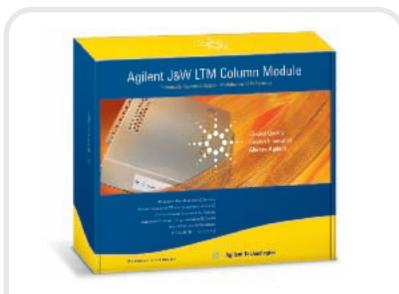
### Add speed and flexibility to your GC analyses

- Direct heating of a capillary column allows ramp rates of up to 1800°C/min (although practical rates depend on column, configuration and desired resolution)
- Fast cooling times – less than one minute for some configurations
- Excellent retention time repeatability comparable to conventional GC
- Run up to four column modules simultaneously with different temperature programs to address more difficult analytical challenges
- Works seamlessly with Agilent Capillary Flow Technology to minimize column maintenance and provide significant new capabilities in multi-dimensional gas chromatography and comprehensive GC

### LTM Rapid Heating/Cooling System

Description	7890 Part No.	6890 Part No.
<b>LTM Systems for Standard Size Column Modules (for fastest cooling)</b>		
LTM System Bundle for 1-channel LTM operation For use with standard size LTM column modules for 7890 GC	G6578A	G6568A
LTM System Bundle for 2-channel LTM operation For use with standard size LTM column modules for 7890 GC	G6579A	G6569A
<b>LTM Systems for Small Size Column Modules (for mounting 3-4 modules)</b>		
LTM System Bundle for 2-channel LTM operation For use with small size LTM column modules	G6574A	G6564A
Module Control Kit(s) for 3rd and 4th modules	G6583A	G6583A
Additional power supply	G6580A	G6580A
<b>Accessories</b>		
LTM external power supply	G6580A	G6580A
LTM transfer line module, small format	G6581A	G6581A
LTM transfer line module, standard format	G6582A	G6582A
LTM Module Control Kit, small format	G6583A	G6583A
LTM Module Control Kit, standard format	G6585A	G6585A





Agilent J&W LTM column modules combine a fused silica capillary column with heating and temperature sensing components wound around it. The design heats and cools the column very efficiently for significantly shorter analytical cycle times compared to conventional air-bath GC oven techniques, while simultaneously using less power.

## Agilent J&W LTM Column Modules

### Outstanding LTM performance plus long-life reliability

- Suitable for majority of Agilent J&W Capillary GC columns (30 m maximum length)
- Rapid temperature programming rates of up to 1800°C/min
- Fast cooling times – less than one minute for some configurations
- Excellent retention time repeatability, comparable to conventional GC
- Ability to run up to four column modules simultaneously, using different temperature programs
- Works with 7890/6890 GC injectors and detectors for little change to your existing methods
- Compatible with Agilent Capillary Flow Technology, for multi-dimensional GC

LTM column modules are available in two column assembly sizes: 5 inch diameter (standard) and 3 inch diameter (small). The standard format provides faster cooling speeds than the small format. Since the chromatography quality is basically equivalent for the two module sizes, Agilent recommends the 5 inch (standard) configuration.

For a complete listing of LTM Column Module part numbers, see the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN.

For more information, visit  
**[www.agilent.com/chem/ltmlcol](http://www.agilent.com/chem/ltmlcol)**



## Inject new performance into your gas chromatography

Agilent's all-new 7693A Automatic Liquid Sampler is a complete redesign of our venerable 7863 ALS, the long-time industry leader. The new system takes advantage of today's latest technology to deliver even greater reliability, performance and flexibility. So whether you have hundreds of samples to analyze, or just a few, the 7693A system gives you sample handling and injection capabilities that are both world-class and best-in-class.

## 7693A Series Automatic Liquid Sampler

### Maximum uptime

- Self-aligning "plug and play" injector mounts in seconds without tools; Can be easily moved from one inlet to another, or quickly and easily transferred between GCs when workloads change
- Greater solvent capacity (>20 mL); Ability to load up to 150 samples allow longer unattended operation
- Lightweight, removable design permits easy inlet maintenance

### Enhanced performance and productivity

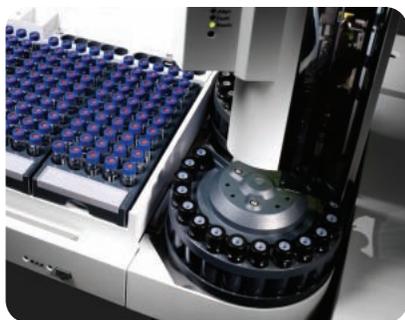
- Exclusive dual simultaneous injection feature saves time by doubling your sample throughput
- Proprietary Agilent fast-injection technology – 2x faster than any competitive ALS – minimizes needle discrimination and sample degradation
- Next sample overlap capability allows you to significantly decrease turn-around-time by performing pre-run rinses and picking up the next sample before the current run is complete

### Unmatched flexibility

- Modular design lets the 7693A ALS work seamlessly with all Agilent 7890 and 6890 (optional controller box required) gas chromatographs; the 7693A injection tower is also supported on Agilent 6850 and 7820 systems
- Easily add features or capabilities as your needs change

### Fully customizable injection

- Programmable injection capability lets you optimize for performance, cost-efficiency or unique research requirements
- Variable injection parameters: In addition to two standard injection speeds, you can customize all injection parameters – including injection speed, syringe plunger speed on draw and injection and needle height into the sample vial and injection port
- The 7693A system can also perform simple liquid manipulations on the sample prior to injection; for example, a derivatization agent could be added, the sample vial heated, mixed and then injected into the system – all automatically



## 7693A Series Automatic Liquid Sampler

Description	Part No.	Option No.
7693A autoinjector	G4513A	
7693A tray, 150 vial	G4514A	
7693A heater/mixer/bar code reader	G4515A	
7693A tray with heater/mixer/bar code reader	G4520A	
7693A sample handling syringe carriage	G4521A	
7693A heating and cooling plate for tray	G4522A	
7693A vial trays with colored labels	G4525A	
7693A upgrade kit for 6890 GC	G4526A	
For 6890A, last 5 SN digits under 20000		#001
For 6890Plus, last 5 SN digits over 20000		#002
For 6890N, all serial numbers		#003

## New automatic sampler syringes expand capabilities and productivity



Agilent's new "blue line" of syringes is specifically designed to work with the Agilent 7693A Automatic Liquid Sampler for even greater productivity.

- Available in new 250  $\mu$ L and 500  $\mu$ L volumes, as well as a full suite of volumes from 0.5  $\mu$ L to 100  $\mu$ L
- Deliver better accuracy via alignment with the Agilent autosampler stroke
- Provide longer plunger lifetime before failure
- Show less wear on inlet septa due to a superior needle finish
- Fully compatible with Agilent's earlier autosamplers
- Provide excellent results for low carryover between samples
- Packaged in environmentally friendly, easy-to-open packaging



## G1888 Headspace Sampler

### Exceptional sensitivity, repeatability, and productivity

Headspace sampling lets you automatically introduce volatile compounds from virtually any sample matrix directly into a GC or GC/MSD system. The G1888 features an inert sample pathway for superior chemical performance without analyte degradation or loss. Its high sample capacity and increased sensitivity ensure excellent performance for a wide range of analytes. The G1888 is the perfect companion for the 7890A GC and together these instruments can significantly improve sensitivity and boost productivity.

- 70-sample tray
- 12 positions in the heating oven
- Multiple headspace-extraction mode
- Integrated ChemStation control software available

### G1888 Headspace Sampler

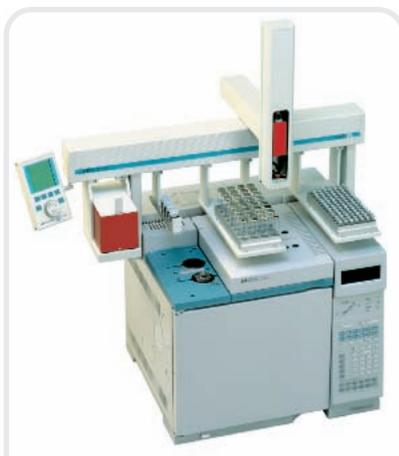
Description	Part No.	Option No.
G1888 Network Headspace Sampler	G1888A	
Sample Loop Pressure Control Kit (Requires 7890A GC)	G1888A	#100
Integrated Headspace Control Software for 32-bit ChemStation	G2924AA	
Integrated Headspace Control Software for MSD Productivity ChemStation	G2923AA	
7694E Economy Headspace Sampler	G1883A	



### Related Supplies

Agilent offers a wide selection of headspace supplies including certified vials, caps and septa.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



## Expand your lab's injection capabilities with a single autosampler system

You perform several types of injections every day. With the Agilent CTC PAL Autosampler, you can avoid the hassles and extra cost of using separate autosamplers from different companies, while controlling the level of software automation.

## CTC PAL Autosampler

The Agilent CTC PAL Autosampler Injection System lets you change injectors quickly, allowing you to perform the following techniques on a single autosampler:

- Low-volume injections with minimal needle discrimination and background interference
- High-volume injections up to 500  $\mu$ L without chromatographic degradation (requires an appropriately configured GC)
- Headspace vial processing that promotes simple, transparent analysis for ultimate confidence in your results
- SPME injections that reduce sample preparation time and eliminate the need for large volumes of extraction solvents

### Smooth integration with Agilent GC and GC/MSD systems

CTC PAL injectors work with any Agilent 7890A, 6890, or 6850 GC or GC/MSD system. Specialized software controls are also available for GC ChemStation, MSD Productivity ChemStation, and EZ Chrom. Additionally, CTC PAL sample injectors are designed to expand your lab's capabilities with features such as:

- A top-mounted design that saves valuable bench space
- Multiple sample vial and well plate options for greater automation
- Integrated software for easy setup, control, and sequencing
- Automated sample preparation and large-volume injection capabilities for greater productivity
- Large tray capacity for higher sample throughput and increased periods of unattended operation
- Temperature-controlled Peltier cooling to prevent sample degradation
- A variety of CTC PAL-compatible supplies to support your specific applications



## CTC Analytics PAL Autosampler Supplies

To better serve Agilent instrument users who choose CTC Analytics autosamplers for high-throughput and flexible sample introduction, Agilent has partnered with CTC to provide a fully integrated system, including CTC approved consumables.

Agilent's portfolio includes a variety of vials, caps, syringes, and well plates compatible with the CTC Analytics HTC PAL, GC PAL, and CombiPAL systems.

### Start with liquid mode for simple, transparent sample processing

- Large-volume injection allows you to inject samples up to 500  $\mu\text{L}$  without the usual degradation in chromatographic performance
- Eliminates the need to concentrate samples through evaporation, which can translate into substantial time savings
- Low-volume injection minimizes needle discrimination and reduces background interference, giving you better results with less work
- Fast injection cycle time, together with the nanoliter injection mode, fits perfectly into the field of fast GC
- With either large- or low-volume injection type, control steps – including fill/inject speed, pre- and post-injection delay times, and pre- and post-injection cleaning – using Agilent's ChemStation software for GC and GC/MSD systems

### Add the headspace mode for increased speed and precision

- Simple, straightforward sample analysis
- No dead volume or adsorption effect in sample
- No loops and transfer lines
- The ability to adjust sample volumes without changing sample loops
- Vial pressurization eliminates the need to dilute the sample

### Upgrade to SPME mode for ultimate speed and efficiency

Solid Phase Micro Extraction (SPME) reduces sample preparation time and eliminates the need for large volumes of extraction solvents. During this fully automated process, analytes first establish equilibria among the sample matrices. The analytes are then adsorbed onto stationary phases coated with fused silica or metal fibers. Finally, the analytes are thermally desorbed from the fibers to a GC inlet, and later, onto a capillary column. As a result, no solvent injection is necessary. What's more, the analytes are rapidly desorbed onto the column, resulting in improved minimum detection limits and increased resolution.

## CTC PAL Autosampler

Description	Part No.
CombiPAL for liquid and headspace injection	G6500-CTC
CombiPAL for liquid injection	G6501-CTC
GC PAL for liquid injection only	G6502-CTC
Headspace upgrade for G6501-CTC	G6503-CTC
SPME upgrade for G6500-CTC and G6501-CTC*	G6504-CTC

\*SPME technology is licensed exclusively to Supelco Inc., U.S. Patent 5,691,206; European Patent 0523092



## Thermal Desorption

### Purchase Markes International Thermal Desorption products directly from Agilent

Thermal Desorption (TD) allows you to introduce volatile and semi-volatile compounds from a wide range of sample matrices, directly into a GC or GC/MSD. Markes TD products are fully supported by Agilent's sales and service network.

For over a decade, Markes International has pioneered and commercialized enhancements to analytical TD instrumentation and associated sampling apparatus. The Markes Series 2 TD platform consists of the UNITY 2, Ultra 2, Air Server 2, and CIA8 products allowing analysis of single tubes, real-time air samples, and canisters with options for automated analysis.

- SecureTD-Q for quantitative repeat analysis
- Electronic RFID tube tagging
- DiffLok caps for sample integrity
- Patented inert valving for compound compatibility
- Electrically-cooled trapping
- Choice of autosamplers for unattended analysis
- Wide range of supplies and sampling equipment

#### Thermal Desorption

Description	Part No.	Option No.
Markes UNITY Series 2 Thermal Desorber	MKI-UNITY2	
Markes Ultra Series 2 Autosampler, 100 tube capacity	MKI-ULTRA2	
Upgrade with 50:50 module for Ultra Series 2	MKI-ULTRA2	#002
Upgrade with Internal Standard/Dry Purge module for Ultra Series 2	MKI-ULTRA2	#003
Upgrade with 50:50 and Internal Standard/Dry Purge modules for Ultra Series 2	MKI-ULTRA2	#004
Markes Air Server Series 2 (3-channel autosampler)	MKIAIRSV	
Markes CIA8 (8-channel canister interface)	MKI-CIA8	



## Powerful performance in an easy-to-use, portable configuration

With the Agilent 3000A Micro GC, there's no need to wait for lab results. The new, completely portable system provides fast analysis at your sampling point. You have immediate access to the data, calculated to your specifications, or you can forward data off-line for processing.

## Agilent 3000A Micro GC

Simultaneously analyze your sample on up to four different channels using four different sets of operating conditions – expanding your separation capabilities without compromising speed. Each channel is actually a self-contained GC comprised of a micro-machined injector, a micro thermal conductivity detector and a high-resolution capillary column enabling quick and easy analysis for complex samples. Digitally controlled pneumatics is also incorporated on each channel, which, coupled with extended dynamic detector range, enables you to analyze gas streams containing major and minor components in one run with a high degree of precision and accuracy. Most analyses are completed in less than 160 seconds, which is a key differentiator compared with traditional GCs.

### Fast, simple and portable

- Completely portable – Interfaced with a laptop, the Micro GC can be carried to any site, anywhere
- More sensitive – In addition to having a TCD that is 10x more sensitive than conventional TCDs, Agilent 3000A Micro GCs now include a performance enhancement (option 001) that allows it to perform trace-level analysis in the low ppm range
- EPC control – Advanced digital pneumatics control enables electronic carrier gas flow, enhancing reliability and precision while further simplifying operation
- Easy operation for operators at various skill levels – Sample-focused software requires just a few mouse clicks to start the analysis and generate a report
- Access anywhere – LAN connectivity enables remote access to the instrument and data; or you can have a remote instrument or process computer automatically start the GC analysis





## Popular Applications

- Natural gas and LPG
- Refinery gases
- Landfill gases
- Fuel cell
- Mine safety
- Transformer oil
- Oil and gas exploration
- Chemical manufacturing
- Environmental
- General purpose fixed gas

## Flexible configurations to meet your needs

- Fully customizable – Custom configurations suit your application needs with 1 to 4 chromatographic channels. Choose from various micro-machined injectors, columns, sample conditioners, and application-specific reporting
- Module-level flexibility – The modular GC design maximizes uptime, with repair as simple as exchanging one module for another. You can be back up and running in less than an hour
- Injectors to fit your analysis – You can increase sensitivity with the variable volume injection option; maintain high precision and repeatability with the fixed volume injection option; remove unwanted contaminants from your sample or speed up analysis with the backflush injection option

## Industry proven preconfigured analyzers

- Natural Gas Analyzer – A compact, turnkey, easy-to-use system designed for reliability and trouble-free service; The 3000 NGA is supplied complete with instrument, application-specific software, calibration gases, and computer
- Refinery Gas Analyzer – Performs a full-range refinery gas analysis: detailed saturated and olefinic hydrocarbons (C1-C6 and C6+ grouped peaks), fixed gases (H<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>, CO, CO<sub>2</sub>), H<sub>2</sub>S, SO<sub>2</sub>, and COS analysis in less than 160 seconds

## Agilent 3000A Micro GC

Description	Part No.
1- or 2-channel Micro GC	G2801A
3- or 4-channel Micro GC	G2802A
Natural Gas Analyzer	G2803A
Refinery Gas Analyzer	G2804A
Portable Micro GC	G2805A
Replacement chromatographic modules	G2807A



Proven performance, superior productivity and maximum confidence in your results

The Agilent 5975C Series MSD with Triple-Axis HED-EM Detector is built on a solid foundation of industry leadership, reliability and performance. It combines innovative design features to boost your lab's productivity and advanced analytical capabilities that help you achieve better results faster. Perfectly complemented by the new 7890A GC, the platform delivers all the elements for perfect chemistry: superior performance, unmatched reliability, greater productivity and enhanced ease of use.

## Agilent 5975C Series MSD with High Sensitivity Triple-Axis Detector

### Advanced analysis capabilities

- The Triple-Axis Detector combines a next-generation off-axis design and triple-channel electron multiplier for the industry's lowest detection limits
- Synchronous SIM/Scan mode lets you selectively monitor for ions of interest at high sensitivity while simultaneously acquiring spectra at scan rates up to 12,500  $\mu/s$
- Trace Ion Detection lowers your Method Detection Limit (MDL), as well as your Limit Of Quantitation (LOQ), while reducing false negatives

### Updated MSD ChemStation software

- Advanced instrument control, high productivity data analysis and easily customizable reporting features help you get more work done in less time
- Agilent's Retention Time Locking (RTL) is now easier to use and ensures reproducible retention times – instrument-to-instrument and lab-to-lab – anywhere in the world
- Integration with Agilent OpenLAB Enterprise Content Manager (ECM) streamlines data handling and organization

### Faster analysis, higher throughput

- Deconvolution Reporting Software, together with new Retention Time Locking databases, dramatically reduce false negative results and post-run analysis time
- Backflush using Capillary Flow Technology reduces the analysis cycle time, minimizes chemical interference from matrix carryover, and extends column life

### Day-after-day reliability and simple operation

- The inert, ultra-reliable, high temperature ion source maintains optimal peak shape and reduces cleaning requirements, especially when analyzing dirty samples
- High temperature gold-plated quartz quadrupole with 1050  $\mu$  mass range stays clean even with complex, high boiling samples
- Simple, automatic tuning takes the trial and error out of system setup, saves time and improves instrument-to-instrument consistency
- QuickSwap Capillary Flow device lets you safely disconnect the column without venting, and without losing vacuum – in about 30 seconds
- Advanced GC inertness is achieved with Inert MS columns, inlet liners and supplies



## Agilent 5975C Series MSD with High Sensitivity Triple-Axis Detector

Description	Part No.
<b>MSD Bundles*</b>	
Include a 5975C Inert MSD, high-performance MSD ChemStation, LAN hub and cables. Do not include a 7890A, 6890, or 6850 GC. EI bundles do not include an ion gauge or gauge controller.	
5975C VL MSD/Data System Bundle – Diffusion Pump, EI Source	G3241A
5975C Inert MSD/Data System Bundle – Standard Turbo, EI Source	G3242A
5975C Inert MSD/Data System Bundle – Performance Turbo, EI Source	G3243A
5975C Inert XL MSD/Data System Bundle – Performance Turbo, EI/PCI/NCI Source, Ion Gauge Controller	G3245A
<b>GC/MSD Bundle</b>	
Includes a 5975C VL MSD, high-performance MSD ChemStation, LAN hub and cables. Does not include an ion gauge or gauge controller.	
5975C MSD/6850 GC/Data System Bundle – Diffusion Pump, EI Source	G3246A
<b>MSD-Ready GC Bundle</b>	
7890 GC bundle for 5975 Series GC/MSD, includes split/splitless inlet and MSD interface	G3442A
<b>A la Carte MSDs</b>	
Do not include GC, PC, printer, LAN hub, MSD Productivity ChemStation, or ion gauge controller.	
5975C VL MSD – EI Diffusion Pump	G3170A
5975C Inert MSD Standard Turbo EI mainframe	G3171A
5975C Inert MSD Performance Turbo EI mainframe	G3172A
5975C Inert XL MSD Performance Turbo EI/PCI/NCI mainframe	G3174A
<b>Accessories</b>	
Ion gauge controller	G3397A
<b>Software</b>	
MSD Productivity ChemStation Software	G1701EA
MSD Security ChemStation Software	G1732BA
MSD Data Analysis Only Software	G1710EA
G1701EA Additional User License	G1711EA
G1710EA Additional User License	G1712EA
G1710EA Data Analysis PC/Monitor/Printer Bundle	G1717EA
Standard MSD ChemStation PC/Monitor/Printer Bundle	G1729EA
MSD Productivity ChemStation License/PC/Monitor/Printer Bundle	G1739EA
Academic MSD ChemStation PC/Monitor/Printer Bundle	G1740EA
Deconvolution Reporting Software	G1716AA
DRS Bundle with NIST and RTL Database	G3249AA

\*All other GC configurations should be ordered from the GC list with Option 201 for the MSD interface.

For a list of available MS Libraries and RTL Databases, see page 26.



## 5975 and 5973 GC/MSD Software and Accessories

Enhancing the performance and productivity  
of your existing GC/MSD

### **Triple-Axis Detector for 5975**

The next generation of off-axis detection minimizes noise and maximizes signal for lowest detection limits.

### **Inert Ion Source for 5975/5973**

Now programmable up to 350°C, the inert ion source delivers enhanced response for active compounds and late-eluters.

### **Performance Electronics for 5973**

Fast, high performance electronics are the key to fast scanning, high performance SIM and SIM/scan operation. Agilent's commitment to the MSD customer base allows older 5973 system to take full benefit of the latest electronic designs.

### **Capillary Flow Technologies**

Agilent's proprietary Capillary Flow Technologies (CFT) provide a wide array of robust enhancements to your separation conditions and daily operation. Tasks such as solvent peak venting, column backflush, and splitting to a parallel detector are easily automated. With the QuickSwap MS device, column and inlet maintenance can be completed faster without risking damage to the MS.

### **Deconvolution Reporting Software**

Agilent's second generation DRS integrates the power of NIST AMDIS deconvolution into ChemStation QEdit review and reporting. Together with new Retention Time Locking databases, DRS extracts accurate qualitative and quantitative information that would be missed by standard Scan and SIM GC/MS methods.

### **MS Spectral Libraries and Retention Time Locked Databases**

Agilent's MSD Series has played a key role in generating the spectra contained within every commercial MS spectral library. Full compatibility of these libraries with MSD Data Systems are guaranteed.

Agilent's RTL databases link each spectrum and the corresponding locked retention time to optimize the combined qualitative value of the MS and GC. Each database can be modified to meet the evolving requirements of the method.

**5975 and 5973 GC/MSD Software and Accessories**

<b>Description</b>	<b>Part No.</b>
<b>MS Libraries</b>	
NIST 2008 MS Library Bundle	G1033A
Wiley 8th edition with NIST 2008 MS Library	G1035B
Stan Pesticide MS Spectral Library	G1038A
Maurer/Pfleger/Weber 2007 Toxicology MS Library	G1039D
NIST 2008 MS Library Upgrade	G1041A
Wiley 8th/NIST 2008 MS Library Upgrade	G1730A
Maurer/Pfleger/Weber Library 2007 Upgrade	G1731B
<b>RTL Databases</b>	
Hazardous Chemical RTL Database Library	G1671AA
Pesticide RTL Database Library	G1672AA
Indoor Air Toxics RTL Database Library	G1673AA
Forensic Toxicology RTL Database Library	G1674AA
JPN Positive List Pesticide RTL Database Library	G1675AA
Fiehn GC/MS Metabolomics RTL Database Library	G1676AA
Environmental Semi-Voas RTL Database Library	G1677AA
<b>Special Software and Software Upgrades</b>	
Deconvolution Reporting Software	G1716AA
DRS Bundle with NIST and RTL Database	G3249AA
Integrated Headspace Control Software for MSD Productivity ChemStation	G2923AA
Headspace Software for MSD Upgrade to A.01.04	G1639AA
CTC PAL Control for MSD ChemStation	G3384AA
G1701EA MSD ChemStation Software Upgrade	G1617EA
MSD Security ChemStation Software Upgrade	G1652BA
G1701EA Data Analysis Only Software Upgrade	G1618EA
Pesticide RTL Database Software Upgrade	G1692AA
MSD-DRS Software Upgrade	G1638AA

	<b>California Department of Food and Agriculture (CDFA)</b>	<b>Deconvolution Reporting Software (DRS)</b>
Number of pesticide hits	37	Same 37 plus 99 additional
Number of false positives	1	0
Time required to process	8 hours	32 minutes

**Extend the qualitative and quantitative power of your MSD with Deconvolution Reporting Software (DRS)**

NIST AMDIS (Automated Mass Spectral Deconvolution and Identification Software) is now fully integrated with ChemStation QEdit and reporting. It is easier than ever to extract trace analytes from complex matrices and deconvolute coeluting peaks for high quality library searches against Retention Time Locked databases and the NIST library.

**5975 and 5973 GC/MSD Software and Accessories**

<b>Description</b>	<b>Part No.</b>
<b>Upgrades for the 5975 Series MSD</b>	
Triple Axis Detector Upgrade Kit	G3392A
PCI/NCI Upgrade for 5975 Series MSD	G3393A
Ion Gauge Controller	G3397A
Dry Pump Upgrade Kit	G3398A
NH <sub>3</sub> Dry Pump Upgrade Kit	G3399A
MSD QuickSwap	G3185B
Inert Ion Source Assembly	G2591A
Inert 5973/75 Extended Linearity App Kit	G2860B
<b>Upgrades for the 5973 Series MSD</b>	
PCI/NCI Upgrade for 5973 MSD	G1086A
5973A Performance Electronics Upgrade	G1088A
5973N/Inert Performance Electronics Upgrade	G1088B
Inert Ion Source Assembly	G2591A
Inert 5973/75 Extended Linearity App Kit	G2860B
Ion Gauge Controller	59864B



**QuickSwap – enhanced productivity and performance through Capillary Flow Technology**

- Fast column removal or replacement without the need to cool and vent the MSD
- Risk-free inlet and column maintenance by preventing air from entering the MSD
- Short analysis times and increased sample throughput by removal of high molecular weight compounds using backflushing mode



## Agilent 7000A Series Triple Quadrupole GC/MS System

### Target compound analysis at the lowest limits of detection

Agilent's new 7000A Triple Quadrupole GC/MS gives you extraordinary sensitivity and selectivity on a routine basis. It delivers lower limits of detection and advanced high-speed GC/MS/MS quantification, even with the dirtiest samples in the most demanding environments. Engineered from the ground up as an easy-to-use GC/MS Triple Quadrupole for day-after-day high performance operation, this breakthrough system is the ideal choice for labs requiring maximum sensitivity, maximum uptime, and maximum productivity.

Whether you are measuring pesticides in food and water, drugs in complex biological matrices, or contaminants in environmental samples, the 7000A system helps you meet the increasing demand for trace-level detection of target analytes. The combination of Agilent's proprietary solid inert ion source, high temperature quartz quadrupole, innovative collision cell design, and new Triple-Axis detector provides industry-leading reliability with femtogram-level sensitivity in complex matrices.

#### Sensitivity and selectivity you can use every day

- Routine femtogram-level sensitivity and superior selectivity in complex matrices
- Next-generation off-axis, triple-channel detector minimizes noise and maximizes signal for the lowest detection limits

#### Faster analysis, higher throughput

- Outstanding data acquisition speed – up to 500 MRM transitions per second – matches the front-end performance of the fastest chromatography without compromising data quality – enabling you to automatically quantify and confirm more targets in a single method
- MassHunter software provides powerful, easy-to-use data analysis; Review and reporting tools let you process more samples in less time with complete confidence in your results



#### Agilent J&W Ultra Inert GC Capillary Columns

Perform trace-level analysis of acids, bases or other active compounds with the utmost confidence. What's more, Agilent has set a new industry standard for column inertness testing by introducing a new Ultra Inert Test Probe Mixture that surpasses our most stringent demands for bleed, sensitivity and efficiency. For more information, visit [www.agilent.com/chem/ultraintert](http://www.agilent.com/chem/ultraintert).

Sample	Data File	Type	Level	Exp. Conc.	RT	Accuracy	Final Conc.	Meth. Conc.	RT	Ac
DMAMSH_01.d	Blank									
DMAMSH_02.d	Blank									
DMAMSH_03.d	Blank									
DMAMSH_05.d	Cal	1	25.0000	2.136	118.2	24.9451	25.0000	2.440		
DMAMSH_06.d	Cal	1	25.0000	2.141	116.3	28.0895	25.0000	2.247		
DMAMSH_07.d	Cal	1	25.0000	2.140	117.9	30.2250	25.0000	2.250		
DMAMSH_08.d	Cal	2	50.0000	2.143	97.0	41.9248	50.0000	2.250		
DMAMSH_09.d	Cal	2	50.0000	2.142	93.1	46.2530	50.0000	2.248		
DMAMSH_10.d	Cal	2	50.0000	2.140	103.6	61.2822	50.0000	2.248		
DMAMSH_11.d	Cal	3	125.0000	2.134	99.0	121.7125	125.0000	2.247		
DMAMSH_12.d	Cal	3	125.0000	2.145	101.9	138.6710	125.0000	2.226		
DMAMSH_13.d	Cal	3	125.0000	2.097	97.7	114.6640	125.0000	2.226		
DMAMSH_14.d	Cal	4	250.0000	2.138	97.2	243.1170	250.0000	2.220		
DMAMSH_15.d	Cal	4	250.0000	2.137	97.2	243.1170	250.0000	2.220		
DMAMSH_16.d	Cal	4	250.0000	2.137	97.2	243.1170	250.0000	2.220		
DMAMSH_17.d	Cal	16	1250.0000	2.101	90.81	1136.9281	1250.0000	2.220		

## Day-after-day reliability and simple operation

- Inert, ultra-reliable ion source – Agilent's unique, dual-filament ion source design increases productivity and reduces cleaning requirements, especially when analyzing dirty samples
- High temperature, gold-plated quartz quadrupole with 1050  $\mu$  mass range stays clean even with complex, high boiling samples – eliminating frequent retuning, time-consuming maintenance and ensuring superior mass analyzer performance
- Proprietary collision cell technology with patent-pending helium quench gas contributes to outstanding high-speed performance without ion ghosting or cross-talk
- Simple, automatic tuning takes the trial and error out of system setup, saves time and improves instrument-to-instrument consistency

## Agilent 7000A Series Triple Quadrupole GC/MS System

Description	Part No.	Option No.
7000A Quadrupole MS/MS EI Bundle Includes 7000A Quadrupole MS/MS, MassHunter Software, CPU, monitor, printer, and ion gauge controller. Does not include a 7890A GC.	G7010A	
Rough pump upgrade to RV5	G3440A	#994
7000A Quadrupole MS/MS EI/CI Bundle Includes 7000A Quadrupole MS/MS, MassHunter Software, CPU, monitor, printer, and ion gauge controller. Does not include a 7890A GC.	G7011A	
<b>MSD-Ready GC Bundle</b>		
7890 GC bundle for 5975 Series GC/MSD Includes Split/Splitless Inlet and MSD Interface	G3442A	
<b>Upgrades for 7000A</b>		
PCI/NCI upgrade kit for the 7000A Quadrupole MS/MS	G7004A	

All other GC configurations should be ordered from the GC list with Option 201 for the MSD interface.

### Expanded Portfolio of Columns and Supplies for GC/MS

Agilent offers a complete selection of columns and supplies for the 5975C MSD and 7000A Triple Quadrupole. Maximize your performance with Agilent J&W Ultra Inert columns, Capillary Flow Technology supplies, MS certified liners, and more.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611 EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



## Agilent 7820A GC System

### The easy choice for routine analyses

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

Agilent's affordable 7820A GC delivers the reliability you are looking for and performance you can count on, the ideal for small- to medium-sized labs using standard GC for routine analysis.

#### **Consistent, dependable results**

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

#### **Lab-proven quality and long-life Agilent reliability**

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

#### **Easy to learn and use – for all users**

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

## Agilent 7820A GC System

Description	Part No.	Option No.
7820A Gas Chromatograph Mainframe made-to-order*	G4350A	
7820A Gas Chromatographic System Includes Split/Splitless Inlet, Flame Ionization Detector, 220V and bundled with installation and familiarization*	G4343A	
7693A Autoinjector, 16 sample capacity	G4513A	
Automated liquid sampler control box	G4349A	G4350 #203
Installation and familiarization		G4350 #44N
7820A GC basic operation/maintenance course (4 days)		G4350 #44P
<b>7820A Inlets and Detectors</b>		
Split/Splitless Capillary injection port	G4352A	G4350 #161
Packed Column injection port	G4348A	G4350 #152
Flame Ionization Detector (FID)	G4331A	G4350 #210
Thermal Conductivity Detector (TCD)	G4332A	G4350 #220
Micro Electron Capture Detector (ECD)**	G2397AE	G4350 #235
Nitrogen Phosphorus Detector (NPD)	G4334A	G4350 #250

\*The 7820A Gas Chromatograph can support a maximum of 2 inlets, 2 detectors and an auxiliary heated zone. Optional items include a 16 sample automated liquid sampler, valving, EzChrom Elite Compact Software, and installation/familiarization.

\*\*Not available in Japan





## Agilent LC and LC/MS Solutions

A complete portfolio of scalable LC solutions for multiple performance levels and future expandability

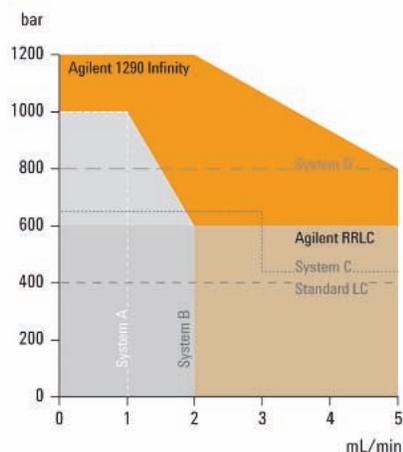
Whatever your LC needs and budget, you will find your individual solution within the Agilent LC portfolio. Ultra high performance LC solutions include the Agilent 1290 Infinity LC as well as Rapid Resolution and low-flow LC systems. For routine standard HPLC applications choose the Agilent 1200 Series LC for more flexibility or the Agilent 1120 Compact LC that offers a more compact design and simplified approach. Application-based solutions complete the portfolio with systems for specific challenges.

### Agilent 1290 Infinity LC System

An infinitely better UHPLC system that meets all your LC and LC/MS needs



The Agilent 1290 Infinity LC is designed to provide highest speed, resolution and sensitivity. A new power range allows you to deploy any particle type, any column dimensions, or any mobile and stationary phases. Innovative technology components offer the next level of performance for both UHPLC and HPLC applications. The 1290 Infinity LC is the first system that provides the foundation for method transfer to or from any Agilent or non-Agilent UHPLC or HPLC system. In short, it gives you infinite capabilities to solve all your analytical challenges in LC and LC/MS.



The power range of the Agilent 1290 Infinity LC is the widest available, combining ultrahigh pressures up to 1200 bar and high flow rates up to 5 mL/min for maximum chromatographic performance, compatibility, flexibility and investment protection.

## Widest power range for infinitely better performance and flexibility

- Infinite power range that combines ultra high pressure up to 1200 bar and high flow rates up to 5 mL/min for maximum chromatographic performance, compatibility, flexibility and investment protection
- New 1290 Infinity Binary Pump combines active damping combined with lowest delay volumes – facilitated by proprietary multi-layer technology in the new Agilent Jet Weaver mixer – to provide ultra fast gradients and superior LC/UV and LC/MS performance
- New optical design in 1290 Infinity Diode Array Detector – including Agilent Max-Light cartridge flow cell – offers a new level of UV-sensitivity and baseline robustness, including fast spectral acquisition at data rates up to 160 Hz
- Next generation flow-through design of the 1290 Infinity Autosampler achieves highest precision for both large and small injection volumes without changing sample loops
- New 1290 Infinity Flexible Cube combines with Autosampler to facilitate fixed-loop injection mode for ultra fast cycle times, or automatic backflushing of needle seat for a new benchmark in lowest carryover
- New Agilent Quick-Change valves in the 1290 Infinity Thermostatted Column Compartment boosts usability and paves the way for ultrahigh throughput, multi-method and automated method development solutions

## Agilent 1290 Infinity LC System

Description	Part No.
1290 Infinity Binary Pump	G4220A
1290 Infinity Autosampler	G4226A
1290 Infinity Flexible Cube	G4227A
1290 Infinity Thermostatted Column Compartment	G1316C
1290 Infinity Diode Array Detector	G4212A

For more information, visit  
[www.agilent.com/chem/1290](http://www.agilent.com/chem/1290)



## Discover the plus in performance

Increased productivity, confidence in analytical results and cost-effectiveness are key objectives in today's analytical laboratories. The Agilent 1200 Series Rapid Resolution LC (RRLC) system is designed to meet these challenges by delivering significantly faster results with higher data quality.

On one system you can push RRLC performance to new limits and continue to run your conventional methods, too. Discover now the plus in separation power and detection capabilities with new innovative system components, providing you with a new level of sample information for more informed decisions in shorter time. Furthermore, the Agilent 1200 Series Rapid Resolution LC system offers new levels of serviceability, uptime and compliance.

## Agilent 1200 Series Rapid Resolution LC System

### Get the maximum in speed, resolution, sensitivity and flexibility

- High resolution chromatography – 90,000 plates in 4 minutes
- Full compatibility with existing HPLC methods
- More detection capabilities – from UV-Visible and ELSD through LC/MS
- Near-zero sample carryover – for uncompromised data quality
- High system flexibility – for automated method development

### Agilent 1200 Series Rapid Resolution LC System

Description	Part No.
1200 Series Micro Degasser	G1379B
1200 Series Binary Pump SL	G1312B
1200 Series High Performance Autosampler SL Plus	G1367D
1200 Series Standard Autosampler SL	G1329B
1200 Series Thermostat for Autosamplers	G1330B
1200 Series Sample Capacity Extension	G2257A
CTC Analytics HTC PAL Injection System	G4270-CTC
CTC Analytics HTS PAL Injection System	G4271-CTC
1200 Series Thermostatted Column Compartment SL	G1316B
1200 Series Variable Wavelength Detector SL Plus	G1314E
1200 Series Multiple Wavelength Detector SL	G1365C
1200 Series Diode Array Detector SL	G1315C
1200 Series Fluorescence Detector	G1321A
1200 Series Evaporative Light Scattering Detector	G4218A



Maximize your performance by combining the Agilent 1200 Series Rapid Resolution System with Agilent ZORBAX Rapid Resolution HT columns. ZORBAX RRHT columns use a totally porous, 1.8  $\mu\text{m}$  particle to provide maximum resolution in fast, ultra-fast and high resolution analyses.



## Agilent 1200 Series Standard LC Systems

The leading industry-standard for quality, reliability and robustness

Whatever your LC needs, you will find your individual solution within the Agilent LC portfolio. Choose from the flexible modular design of the Agilent 1200 Series, the leading industry-standard that offers configurations ideally suited to meet your application requirements. Agilent has been developing reliable and robust LC systems for over 30 years. The Agilent 1200 Series represents the latest advance in this evolution of excellent integrated solutions, designed to help you achieve uncompromised data quality and higher productivity. Make a secure investment in the future of your lab with the scalable and open architecture of the Agilent 1200 Series.

### **1200 Series Isocratic LC System**

The LC workhorse for demanding QA/QC applications

- Entry-level system for world-class LC technology
- Easy and fast maintenance
- Flow rates up to 10 mL/min for a wide range of column dimensions and applications
- Upgrade options from isocratic up to automated quaternary LC system

### **1200 Series Binary LC System**

For research, high-throughput and fast applications

- High pressure gradient mixing for superior gradient performance even at lower flow rates
- Optimized delay volumes for fast chromatography
- Flow rates from 0.05 to 5 mL/min provide ideal support for narrow and standard bore applications

### **1200 Series Quaternary LC System**

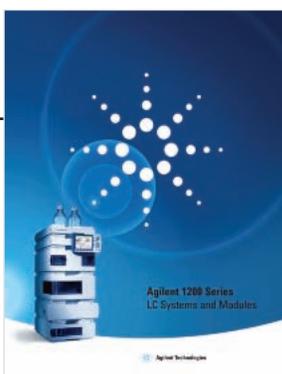
For routine method development and high-throughput gradient applications

- Greatest flexibility for multi-solvent gradients by accessing up to 4 solvents
- Flow rates up to 10 mL/min support narrow bore, standard and semi-preparative applications
- Wide selection of autosamplers for full flexibility in injection volumes and sample containers



## Agilent 1200 Series Standard LC Systems

Description	Part No.
1200 Series Vacuum Degasser	G1322A
1200 Series Micro Degasser	G1379B
1200 Series Isocratic Pump	G1310A
1200 Series Binary Pump	G1312A
1200 Series Quaternary Pump	G1354A
1200 Series Manual Injector	G1328B
1200 Series High Performance Autosampler	G1367B
1200 Series Standard Autosampler	G1329A
1200 Series Thermostat for Autosamplers	G1330B
1200 Series Thermostatted Column Compartment	G1316A
1200 Series Variable Wavelength Detector	G1314B
1200 Series Multiple Wavelength Detector	G1365D
1200 Series Diode Array Detector	G1315D
1200 Series Fluorescence Detector	G1321A
1200 Series Refractive Index Detector	G1362A
1200 Series Evaporative Light Scattering Detector	G4218A



### Related Literature

Order the complete 1200 Series brochure from your local Agilent representative or Agilent Authorized Distributor using publication number **5989-5200EN**.



## Redefining HPLC purification

Preparative HPLC is the technique of choice for compound isolation and purification within the pharmaceutical and life science industries. Agilent offers purification solutions from nanogram to gram sample quantities. Agilent 1200 Series Purification Systems, with their modular hardware and software approach, allow you to configure your system according to your needs. Agilent has developed dedicated purification systems for different sample quantities and optimized them for the highest recovery and purity, throughput and productivity.

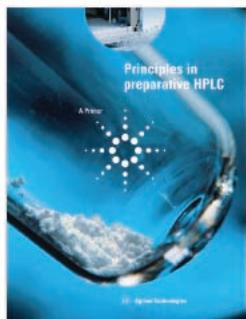
## Agilent 1200 Series Purification LC Systems

**Dedicated preparative solutions for a range of sample quantities and flow rates, optimized for highest recovery and purity, throughput and productivity**

- Analytical scale covering flow rates up to 10 mL/min
- Preparative scale covering flow rates up to 100 mL/min
- Automated delay volume calibration
- Integrated safety features
- Software solutions for different user needs
- Smart fraction collection based on time, peak or mass

### Agilent 1200 Series Purification LC Systems

Description	Part No.
<b>Analytical Scale Purification</b>	
1200 Series Vacuum Degasser	G1322A
1200 Series Isocratic Pump	G1310A
1200 Series Quaternary Pump	G1354A
1200 Series Binary Pump	G1312A
1200 Series Standard Autosampler	G1329A
1200 Series Preparative Autosampler	G2260A
1200 Series Dual-Loop Autosampler	G2258A
Manual prep injection valve kit, stainless steel	5065-9922
1200 Series Thermostatted Column Compartment	G1316A
1200 Series Fraction Collector AS	G1364C
1200 Series Thermostat for Autosamplers (2x)	G1330B
1200 Series 12-Position/13-Port Valve	G1160A
<b>Preparative Scale Purification</b>	
1200 Series Preparative Pump	G1361A
1200 Series Preparative Pump Gradient Extension	G1391A
1200 Series Preparative Autosampler	G2260A
1200 Series Dual-Loop Autosampler	G2258A
Manual prep injection valve kit, stainless steel	5065-9922
1200 Series Thermostatted Column Compartment	G1316A
1200 Series Column Organizer	G1383A
1200 Series Fraction Collector PS	G1364B
1200 Series Thermostat for Autosamplers (2x)	G1330B
1200 Series 12-Position/13-Port Valve	G1160A



**Related Literature**

Order the primer *Principles of Preparative HPLC* from your local Agilent representative or Agilent Authorized Distributor using publication number **5989-6639EN**.

**Agilent 1200 Series Purification LC Systems**

Description	Part No.	Option No.
<b>Detectors</b>		
1200 Series Variable Wavelength Detector	G1314B	
1200 Series Diode Array Detector	G1315D	
1200 Series Multiple Wavelength Detector	G1365D	
<b>Preparative Scale Flow Cells for Multiple Wavelength Detector</b>		
Stainless steel flow cell, 3 mm path length	G1365B	#022
Quartz flow cell, 0.3 mm path length	G1365B	#024
Quartz flow cell, 0.06 mm path length	G1365B	#026
<b>Analytical Scale Flow Cells for Multiple Wavelength Detector</b>		
Semi-micro flow cell, 6 mm path length, 5 µL volume, pressure tight to 120 bar	G1315D	#016
Standard flow cell, 10 mm path length, 13 µL volume, pressure tight to 120 bar	G1365D	#018
<b>Preparative Scale Flow Cells for Diode Array Detector</b>		
Stainless steel flow cell, 3 mm path length	G1315B	#022
Quartz flow cell, 0.3 mm path length	G1315B	#024
Quartz flow cell, 0.06 mm path length	G1315B	#026
<b>Analytical Scale Flow Cells for Diode Array Detector</b>		
Semi-micro flow cell, 6 mm path length, 5 µL volume, pressure tight to 120 bar	G1315D	#016
Standard flow cell, 10 mm path length, 13 µL volume, pressure tight to 120 bar	G1365D	#018
<b>Analytical Scale Flow Cells for Variable Wavelength Detector</b>		
Semi-micro flow cell, 6 mm path length, 5 µL volume, pressure tight to 40 bar	G1314B	#016
1200 Series Fluorescence Detector	G1321A	
1200 Series Refractive Index Detector	G1362A	
1200 Series Evaporative Light Scattering Detector	G4218A	
<b>Mass-Based Fraction Collection</b>		
Mass-Based Fraction Collection Kit	G1968C	
1200 Series ESI LC/MSD VL system bundle	G3218AA	
1200 Series ESI LC/MSD SL system bundle	G3218BA	

## The most versatile system for analytical method development

Is your lab looking for a better, more effective way to develop new HPLC methods? Are you tired of disconnecting columns, exchanging solvent bottles, flushing flow paths and waiting for the system to equilibrate?

Here's some good news – the Agilent 1200 Series LC Method Development Solution. Benefit from up to 288 different test conditions for binary gradient separation – on a system tailored to your needs. The Agilent 1200 Series LC Method Development Solution integrates new hardware modules and new software for system control and application support. Agilent ZORBAX LC columns and top-rated Agilent services make this a truly one-vendor solution for all HPLC method development tasks.

## Agilent 1200 Series LC Method Development Solution

### For highest flexibility based on an unmatched combination of advanced LC instrumentation, columns, and application-specific software

- More than 50 LC modules for different detection modes and different budgets
- Automated switching among up to eight columns and up to 15 different solvent pairs
- Up to 288 different test conditions for binary gradient separation
- No need to disconnect columns or exchange solvent bottles
- Choose from different application software packages
- Agilent ChemStation Method Scouting Wizard
- Agilent Easy Access for walk-up systems supporting different columns
- Agilent partner solutions for complete automated method optimization





## Column Kits for Agilent's Automated HPLC Method Development System

Six new Method Development Kits put the key Agilent ZORBAX columns you need for analytical success right at your fingertips. Kits include Eclipse Plus columns for superior peak shape with acids, bases, and neutrals, as well as Rapid Resolution and Rapid Resolution High Throughput columns for fast method development. For more information, visit [www.agilent.com/chem/methodkits](http://www.agilent.com/chem/methodkits).

## Ordering Information

Many configurations of pumps, autosamplers and detectors are possible. A working system requires at least two thermostatted column compartments (both including Option #058) as well as one Valve Kit for 400 bar (G4230A) or 600 bar (G4230B) operation. For system control, Agilent ChemStation revision B.04.01 or higher is required.

Below is a typical high-end configuration for up to 600 bar operation with column and solvent selection, and with MS detection.

## Agilent 1200 Series LC Method Development Solution

Description	Part No.	Option No.
<b>Solvent Delivery</b>		
1200 Series Binary Pump SL	G1312B	
Solvent Selection Valve	G1312B	#031
Active Seal Wash	G1312B	#030
<b>Solvent Selection</b>		
1200 Series 12-Position/13-Port Valve	G1160A	
Cover Kit for Binary Pump	5067-1567	
1200 Series Micro Degasser	G1379B	
Solvent Cabinet	5065-9981	
Solvent Selection Tubing Kit, 4 solvents	5067-4601	
<b>Injection</b>		
1200 Series High Performance Autosampler SL Plus	G1367D	
<b>Detection</b>		
1200 Series Diode Array Detector SL	G1315C	
6140 Single Quadrupole LC/MS System	G6140AA	
<b>Column Selection</b>		
1290 Infinity Thermostatted Column Compartment	G1316C	
Integrated Valve Drive	G1316C	#058
High-Pressure Method Development Valve Kit	G4230B	
Capillary Kit for Short, Low-Dispersion Column	G4230B	#001
Column Kit, RRHT 2.1 mm selectivity range	G4230B	#011
Column Kit, RRHT 2.1 mm pH range	G4230B	#012
<b>Software</b>		
ChemStation Method Scouting Wizard	G2196AA	



## Agilent 1200 Series Capillary LC System

### Enter the world of low-flow applications

Using a unique technology, the Agilent 1200 Series Capillary LC System is optimized for capillary LC. A wide range of flow rates expands laboratory flexibility and provides for unparalleled sensitivity and reproducibility. Combined with sensitive MS detection, the 1200 Series Capillary LC System offers complete integrated and reliable solutions for handling tiny samples and extremely low analyte concentrations.

#### A fully integrated system for highest sensitivity and reproducibility

- Up to 500 times more sensitive compared to conventional LC
- Typical flow rates 1-100  $\mu\text{L}/\text{min}$ , extendable up to 2.5  $\text{mL}/\text{min}$
- Advanced diode array detection from 190-950 nm

#### Agilent 1200 Series Capillary LC System

Description	Part No.
1200 Series Micro Degasser	G1379B
1200 Series Capillary Pump	G1382A
1200 Series Micro Well-Plate Autosampler	G1377A
1200 Series Thermostat for Autosamplers	G1330B
1200 Series Thermostatted Column Compartment	G1316A
1200 Series Diode Array Detector	G1315B



## Agilent 1200 Series Nanoflow LC System

### Nanoflow LC for high sensitivity nanospray MS

The Agilent 1200 Series Nanoflow LC incorporates Agilent's unique Electronic Flow Control (EFC) with active feedback and real-time flow adjustment for constant flow delivery to the column independent of system backpressure. EFC with real-time flow control is the gold standard for reliable and robust nanoflow performance. Easy to use, the Agilent 1200 Series Nanoflow LC simply requires the user to input the desired nanoflow set-point to obtain the precise flow and gradient performance required for retention time reproducibility and stable ion generation essential for high sensitivity nanoflow MS performance.

#### Unsurpassed nanoflow performance and stability

- Up to 3500 times more sensitive compared to conventional LC
- Typical flow rates 0.1-1  $\mu\text{L}/\text{min}$ , extendable up to 2.5  $\text{mL}/\text{min}$
- Compatibility with third-party MS platforms

#### Agilent 1200 Series Nanoflow LC System

Description	Part No.
1200 Series Micro Degasser	G1379A
1200 Series Nanoflow Pump	G2225A
1200 Series Micro Well-Plate Autosampler	G1377A
1200 Series Thermostat for Autosamplers	G1330B



#### Extensive LC Column and Supplies Portfolio

Maximize your performance by combining the new Agilent 1200 Series system with Agilent ZORBAX LC columns and LC supplies. Designed with the same attention to detail, quality and superior performance you have come to expect from Agilent instruments, you can count on Agilent columns and supplies to deliver the high quality results you need.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.

## Chromatography with MALDI Mass Spectrometry

The Agilent 1200 Series Micro-Collection/Spotting LC System is a separation tool for proteomics by combining the strength of chromatography with the power of MALDI Mass Spectrometry. With limited sample amounts, the challenge is to achieve high-sensitivity detection. This requires a system designed for separations at low flow rates and the collection of small fraction volumes even on MALDI targets. The 1200 Series Micro-Collection/Spotting LC System is an ideal tool for single or multidimensional chromatographic separation of complex peptide and protein mixtures for subsequent analysis by MALDI and/or ESI Mass Spectrometry.

## Agilent 1200 Series Micro-Collection/Spotting LC System

**For collection of micro-fractions in different well-plate formats and for combining chromatography with the power of MALDI MS by direct spotting on MALDI targets**

- Active flow control for exceptional flow stability
- Flexibility of collection in well-plates, Eppendorf tubes and MALDI targets
- Liquid control for highest reproducible collection of small volumes
- Fraction cooling prevents evaporation and thermal decomposition

### Agilent 1200 Series Micro-Collection/Spotting LC System

Description	Part No.
1200 Series Micro Degasser	G1379A
1200 Series Nanoflow Pump	G2225A
1200 Series Micro Well-Plate Autosampler	G1377A
1200 Series Thermostatted Column Compartment	G1316A
1200 Series Diode Array Detector	G1315B
1200 Series Micro-Fraction Collector/Spotter	G1364D
1200 Series Thermostat for Autosamplers (2x)	G1330B





## HPLC-Chip/MS for easy to use nanospray LC/MS

The Agilent 1200 Series HPLC-Chip/MS LC System is a new microfluidic chip-based technology for nanospray LC/MS. Combined with the high performance Agilent 6000 MS Systems, the HPLC-Chip System offers superior overall robustness, reliability and ease of use. The HPLC-Chip/MS integrates columns, connection capillaries and nanospray emitter directly on the polymer chip surface, eliminating peak dispersion and providing uncompromised chromatographic performance.

## Agilent 1200 Series HPLC-Chip/MS LC System

**A fully integrated system for superior chromatographic performance and ease of use**

- Up to 3500 times more sensitive compared to conventional LC
- No peak dispersion for uncompromised chromatographic performance
- Sample preparation and separation columns, connection capillaries, fittings, and nanospray emitter integrated directly on the polymer chip

### Agilent 1200 Series HPLC-Chip/MS LC System

Description	Part No.
1200 Series Micro Degasser (2x)	G1379A
1200 Series Capillary Pump	G1376A
1200 Series Nanoflow Pump	G2225A
1200 Series Micro Well-Plate Autosampler	G1377A
1200 Series Thermostat for Autosamplers	G1330B
1200 Series HPLC-Chip/MS Interface Includes HPLC-Chip Cube, MS Installation Kit, Orthogonal Dual Electrode Nanospray Ion sSurce with camera and monitor, Ion Source Top Plate with brushes for operation in chemical background reduction mode, Protein ID Chip #1 and MS Calibration and Diagnostic Chip	G4240A
<b>HPLC Chips</b>	
MS Calibration and Diagnostic Chip For infusion of MS Tuning Mix and calibration of the Chip Cube Microvalve	G4240-61001
Protein ID Chip #1 For peptide separations, low/medium complexity tryptic digest mixtures. 100-400 ng on-column. 40 nL enrichment column, 75 µm x 43 mm analytical column. Stationary phase: 5 mm, C-18 SB-ZORBAX, 300Å.	G4240-62001
Protein ID Chip #2 For peptide separation, medium/high complexity tryptic digest mixtures. Up to 1 µg on-column. 40 nL enrichment column, 75 µm x 150 mm analytical column. Stationary phase: 5 mm, C-18 SB-Zorbax, 300Å.	G4240-62002



### Agilent 1200 Series HPLC-Chip/MS LC System

Description	Part No.
<b>HPLC Chips</b>	
<b>Glycan Chip</b> For Glycan (oligosaccharides) separations. Can be used for highly polar compounds and structurally related compounds such as geometric isomers and diastereoisomers. 40 nL enrichment column, 75 $\mu\text{m}$ x 43 mm analytical column. Stationary phase: 5 mm, Graphitized Carbon.	G4240-62003
<b>Small Molecule Chip</b> For small molecules retained and well characterized on SB-C18 stationary phase. 40 nL enrichment column, 75 $\mu\text{m}$ x 43 mm analytical column. Stationary phase: 5 mm, C-18 SB-ZORBAX 80Å.	G4240-65001
<b>Infusion Chip</b> Direct infusion or automated flow injection of the sample directly into the mass spectrometer at nanoflow rates for MS and MS/MS data collection.	G4240-61002
<b>Custom Chip</b> For customers requiring non-standard stationary phase material and/or non-standard chip layout and functionality. Minimum order of 5 chips. Requires Special Product Quote (SPQ).	G4240-63001
<b>Predesigned Custom HPLC Chips</b>	
These HPLC-Chips are not available from stock and are made to order. Delivery time is 4 weeks after acceptance of order.	
<b>Intact Protein Chip</b> For separation of intact proteins up to 80 kDa. 40 nL enrichment column, 75 $\mu\text{m}$ x 43 mm analytical column. Stationary phase: 5 mm, C-8 SB-ZORBAX, 300Å.	G4240-63001 SPQ105
<b>Direct Injection Chip</b> For direct injection of the sample onto the separation columns without enrichment. On-chip 16 nL injection loop, 75 $\mu\text{m}$ x 150mm analytical column. Stationary phase: 5 mm, C-18 SB-ZORBAX, 300Å.	G4240-63001 SPQ100
<b>Protein ID Chip #3</b> High capacity enrichment column. For peptide separation, high complexity tryptic digest mixtures. Up to 4 $\mu\text{g}$ on-column. 160 nL enrichment column, 75 $\mu\text{m}$ x 150 mm analytical column. Stationary phase: 5 mm, C-18 SB-ZORBAX, 300Å.	G4240-63001 SPQ110
<b>UHC Small Molecule Chip</b> For small molecule separations requiring high capacity and wide polarity range coverage. 500 nL enrichment column, 75 $\mu\text{m}$ x 150 mm analytical column. Stationary phase: 5 mm, C-18 SB-ZORBAX, 80Å. The use of an in-line filter is strongly recommended when using this chip for biofluid analysis.	G4240-63001 SPQ115



## Agilent 1120 Compact LC System

### Simply a better value

Is your lab looking for better, more reproducible results for all your standard HPLC analyses, run after run and day after day? Are you looking for an affordable, high-quality solution that maximizes uptime, minimizes maintenance and provides the highest return on your investment?

Here's some good news – the 1120 Compact LC from Agilent. Now any lab can take advantage of Agilent's unmatched combination of advanced instrumentation, versatile software and application-matched columns and consumables. This robust LC solution is designed to optimize performance while minimizing complexity. And because it's from Agilent, it gives you the proven quality and performance you expect from the industry leader – in your choice of five easy-to-own, integrated, all-in-one configurations.

### **Ideal for small- to medium-sized labs using standard HPLC for routine analysis**

- Easy to learn and use for all users
- Extraordinary results in a system optimized for everyday productivity
- Industry-leading quality and long-life Agilent reliability
- Five standard configurations to fit your LC workflow
- A complete, integrated software solution, scalable from a single user to an entire enterprise
- Agilent columns and supplies for an extra measure of reliability and confidence
- Agilent's customer-enabled service and support features for maximized uptime

## Agilent 1120 Compact LC System

Description	Part No.
Agilent 1120 Compact LC Includes isocratic pump, manual injector, variable wavelength detector, software and startup column	G4286AA
Agilent 1120 Compact LC Includes isocratic pump, autosampler, column oven, variable wavelength detector, software and startup column	G4287AA
Agilent 1120 Compact LC Includes gradient pump, manual injector, variable wavelength detector, software and startup column	G4288AA
Agilent 1120 Compact LC Includes gradient pump, manual injector, column oven, variable wavelength detector, software and startup column	G4289AA
Agilent 1120 Compact LC Includes gradient pump, autosampler, column oven, variable wavelength detector, software and startup column	G4290AA



### Agilent Supplies for Your 1120 Compact LC

Maximize your performance by using Agilent parts and supplies specifically designed to work seamlessly with the new 1120 Compact LC.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



Choose from four models to meet your application and performance needs:

- **6110** – Economical entry to the power of LC/MS
- **6120** – Adds the productivity of ion polarity switching
- **6130** – Research-grade LC/MS with faster scanning and outstanding sensitivity
- **6140** – Maximum performance plus ultra-fast scanning for fast chromatography and high-throughput applications

## Agilent 6100 Series Single Quadrupole LC/MS Systems

Single quad technology with a reputation for robustness and dependability in pharmaceutical and chemical analysis laboratories around the world

From routine QC to research level applications, Agilent 6100 Series Single Quadrupole LC/MS Systems offer industry-leading data quality in an easy-to-use, space saving benchtop package.

- Faster acquisition speeds to take full advantage of high-throughput separations such as RRLC
- Ultra-fast ion polarity switching (up to 20 spectra/second) provides maximum information from a single injection
- Faster injection-to-injection cycle time lets you run more samples per hour

### Agilent 6100 Series Single Quadrupole LC/MS Systems

Description	Part No.
6110 Single Quadrupole LC/MS System	G6110AA
6120 Single Quadrupole LC/MS System	G6120AA
6130 Single Quadrupole LC/MS System	G6130AA
6140 Single Quadrupole LC/MS System	G6140AA





## Agilent 6200 Series Accurate-Mass TOF LC/MS Systems

True Hi-Def TOF technology measurably surpasses any other TOF system

Combined with True Hi-Def TOF technology, the 6200 Series Accurate-Mass TOF LC/MS Systems deliver unmatched speed and performance in a compact benchtop instrument for confirming synthetic compounds, profiling biomarkers, identifying impurities, screening for pesticides or characterizing intact proteins.

- Sub-1 ppm typical mass accuracy improves confidence and reduces false positives
- Data acquisition rates up to 40 spectra per second assure maximum data quality and compatibility with fast chromatography
- Up to five orders of in-spectrum dynamic range reveal trace-level targets even in the presence of vastly more abundant compounds
- Low picogram on-column sensitivity finds impurities or biomarkers at extremely low concentrations
- Exceptionally accurate intact protein MW determination allows rapid QC of recombinant therapeutics
- The 6230 Accurate-Mass TOF LC/MS with Agilent Jet Stream thermal gradient focusing provides a 5- to 10-fold improvement in MS and MS/MS sensitivity at optimal LC flow rates, for even greater analytical confidence
- MassHunter Workstation software's fully automated data analysis routines completely exploit the high information content of accurate-mass MS data from Agilent TOF LC/MS systems

### Agilent 6200 Series Accurate-Mass TOF LC/MS Systems

Description	Part No.
6230 Accurate-Mass TOF LC/MS System	G6230AA
6224 Accurate-Mass TOF LC/MS System	G6224AA

Whether you are searching for low abundance proteins, drug metabolites in complex matrices, pesticide residues in food products, or confirming compound identity, there is a 6300 Series Ion Trap LC/MS System to meet your needs.

- **6310** – Makes high performance MS<sup>n</sup> economical
- **6320** – Provides enhanced sensitivity and faster scan speed
- **6330** – Offers ultimate sensitivity for low-abundance analytes
- **6340** – Improves PTM characterization and protein identification

## Agilent 6300 Series Ion Trap LC/MS<sup>n</sup> Systems

### Flexible platforms for compound structure analysis

Available in a range of configurations tailored to your lab's analysis needs, Agilent 6300 Series Ion Trap Systems deliver sensitive, data-dependant MS/MS that makes structural confirmation and sample identification faster and easier.

- Low femtogram sensitivity and fast scan speeds enhance compound identification in complex samples
- Automated, data-dependent MS/MS and MS<sup>n</sup> maximize the amount of high-quality data from a single run, increasing the number of compounds identified
- Optional Electron Transfer Dissociation (ETD) improves peptide fragmentation and allows Post Translational Modifications (PTMs) such as phosphorylation to be more easily identified and located

#### Agilent 6300 Series Ion Trap LC/MS<sup>n</sup> Systems

Description	Part No.
6310 Ion Trap LC/MS System	G2440DA
6320 Ion Trap LC/MS System	G2451AA
6330 Ion Trap LC/MS System	G4533AA
6340 Ion Trap LC/MS System	G2474AA





## Unparalleled sensitivity for real world applications

Industry-leading sensitivity, productivity and value with the popular 6410 System or the breakthrough 6460 LC/MS System. The new 6460, with Agilent Jet Stream Thermal Gradient Focusing technology, achieves dramatic sensitivity gains and is the first triple quad to break the femtogram detection barrier. This extreme sensitivity has been applied to a growing list of critical applications including food safety, drug development and environmental monitoring.

## Agilent 6400 Series Triple Quadrupole LC/MS Systems

- Femtogram sensitivity, regardless of application – Maximized ion generation and transmission across a broad mass range ensure low limits of detection and quantitation for the widest range of sample types
- Fast, sensitive MRMs – An innovative collision cell design eliminates cross-talk and enables the analysis of large multianalyte panels, such as pesticides in food or targeted protein quantitation
- Automated method development and optimization software selects the best possible conditions to maximize sensitivity for each compound
- The MassHunter acquisition software features comprehensive data-dependent and targeted MS/MS capabilities, as well as automated MRM method development software (MassHunter Optimizer), scheduled MRM and 21 CFR Part 11 compliance support for the 6400 Series Triple Quadrupole LC/MS

### Agilent 6400 Series Triple Quadrupole LC/MS Systems

Description	Part No.
6410 Triple Quadrupole LC/MS System	G6410BA
6460 Triple Quadrupole LC/MS System	G6460AA



### Comprehensive LC/MS Supplies Portfolio

Improve your performance by using Agilent parts and supplies designed specifically for Agilent 6000 Series LC Systems. Agilent offers a full portfolio of LC/MS supplies, including chemicals, vacuum accessories, tubing, fittings, source supplies, and the new, convenient preventive maintenance kit.

For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



**Relentless innovations  
for highest performance**

The new 6530 Accurate-Mass Q-TOF gets its outstanding mass accuracy, resolution and dynamic range from True Hi-Def TOF technology. The new Agilent Jet Stream technology enhances nebulization and desolvation, delivering more ions to the mass spectrometer while simultaneously reducing the number of neutral solvent clusters. The result is enhanced sensitivity with stronger signals and lower RSDs at the limit of detection.

## Agilent 6500 Series Accurate-Mass Q-TOF LC/MS Systems

Uncompromising performance helps you tackle every challenge

Using the power of True Hi-Def TOF technology, the 6500 Accurate-Mass Q-TOF Systems deliver unsurpassed mass accuracy in both MS and MS/MS for unambiguous structural elucidation and target identification.

- Sub-1 ppm MS and 2-4 ppm MS/MS mass accuracy increases confidence in small molecule ID and reduces false positive rates in protein database searches
- Superior attomole-to-low-femtomole sensitivity helps you identify even very low abundance compounds
- Fast data acquisition rates of up to 20 spectra/second ensure maximum compatibility with fast LC and high-throughput methods
- Broad mass range of 25-20,000 m/z enables detection of small molecules, peptides or intact proteins
- Agilent Jet Stream technology is available on the 6530 Accurate-Mass Q-TOF LC/MS to provide maximum sensitivity for multiple applications, including the analysis of drug candidates and trace levels of food contaminants, metabolites or biomarkers
- MassHunter Workstation software's fully automated data analysis routines completely exploit the high information content of accurate-mass MS and MS/MS data from Agilent Q-TOF LC/MS Systems

### Agilent 6500 Series Accurate-Mass Q-TOF LC/MS Systems

Description	Part No.
6520 Accurate-Mass Q-TOF LC/MS System	G6520BA
6530 Accurate-Mass Q-TOF LC/MS System	G6530AA

## Agilent LC/MS Ion Sources

### An LC/MS ion source for every application

Effective ionization is an essential first step to successful mass spectrometry analysis. Agilent Technologies is a leader in ion source technology, with LC/MS ion sources to meet the widest range of applications.

Agilent Ion Sources use highly effective technologies such as orthogonal nebulization and high-temperature, counter-flow drying gas to maximize performance, reliability, and ease of use.

- Patented orthogonal nebulization simplifies operation and reduces maintenance
- Heated counterflow drying gas improves performance
- Dual nebulizer maximizes mass accuracy



#### True simultaneous ESI & APCI to maximize coverage and sample throughput

The Agilent Multimode Source is a true breakthrough in LC/MS ionization – the only ion source capable of simultaneously generating ions by Electrospray Ionization (ESI) and Atmospheric Pressure Chemical Ionization (APCI).

### Agilent Multimode Source

- Maximizes throughput and eliminates reanalysis by acquiring positive and negative ESI and APCI data in a single run
- Eliminates significant loss of data and sensitivity by acquiring data in both ionization modes 100% of the time
- Delivers spectra identical to spectra from dedicated sources
- Powerful infrared emitters accommodate a wide range of LC flows and also drastically reduce drying gas consumption

#### Agilent Multimode Source

Description	6000 Series Part No.	Older MS Series Part No.
Multimode Source	G1978B	G1978A



### Popular Applications

Designed for nanoelectrospray LC/MS applications such as protein identification, intact protein, glycoprotein and phosphoprotein analysis, and small molecule applications for pharmaceutical development.

By incorporating many components of a traditional nanoflow LC/MS system into a biocompatible polymer chip, HPLC-Chip technology delivers uncompromising separations and dramatically increases LC/MS sensitivity.

## Agilent HPLC-Chip Nanoelectrospray Source

### Superior robustness, reliability and ease of use

The HPLC-Chip nanoelectrospray source and HPLC-Chip robotic interface allow you to take advantage of the spectacular performance of HPLC-Chips by interfacing them with your Agilent LC/MS System.

Agilent HPLC-Chips seamlessly integrate the sample enrichment and separation nanocolumns, connections, and spray needle of a traditional nanoelectrospray LC/MS system into a biocompatible polymer chip. Overall robustness, reliability, and ease of use are greatly improved compared to conventional nanocolumns, allowing routine, automated use of nanoelectrospray.

- Work with complex mixtures, analyze limited sample amounts and detect subtle yet significant changes with confidence
- Quickly and easily switch between different methodologies without the challenges of re-plumbing a nanoflow LC system
- HPLC-Chips are available for proteomics and metabolomics applications, small molecule separations, flow-injection or direct infusion, and customization with new layouts, features and functionality

### Agilent HPLC-Chip Nanoelectrospray Source

Description	Part No.
1200 Series HPLC-Chip/MS Interface For use with all Agilent 6000 Series Mass Spectrometers Includes HPLC-Chip Cube, MS Installation Kit, Orthogonal Dual Electrode Nanospray Ion sSource with camera and monitor, Ion Source Top Plate with brushes for operation in chemical background reduction mode, Protein ID Chip #1 and MS Calibration and Diagnostic Chip	G4240A



## Agilent Electropray Source

Electrospray Ionization (ESI) is a mainstay of LC/MS and can be used to analyze large and small analytes. The Agilent electropray ion source uses our patented orthogonal nebulization and heated counterflow drying gas system to achieve excellent sensitivity and robust, reliable performance. It can generate both positive and negative ions, and ion polarity can be switched on a scan-by-scan basis to double the information acquired from a single run.

### Agilent Electropray Source

Description	6000 Series Part No.	Older MS Series Part No.
Electrospray Source	G1948B	G1948A

The following are special nebulizers that can be added to the standard Electropray Source:

### Agilent Capillary Electropray Nebulizer

For compatibility with capillary LC separations, the standard Agilent Electropray Ion Source can be equipped with a capillary nebulizer that is optimized for microliter flow rates. No modification of the source is required; you retain all the benefits of orthogonal nebulization and counterflow drying gas. The capillary nebulizer supplies outstanding sensitivity and easy, reliable operation for capillary LC/MS.

### Agilent Capillary Electropray Nebulizer

Description	Part No.
Capillary Electropray Nebulizer Assembly	G1385A

### Agilent Electropray Ionization Nebulizer for Capillary Electrophoresis

A specialized CE nebulizer is available to interface a CE system to Agilent LC/MS Systems. It is most commonly used with the Agilent Electropray Source, but can also be used with our APCI, Multimode, and APPI Ion Sources. No modification of the source is required; you retain all the benefits of orthogonal nebulization and counterflow drying gas. The CE nebulizer operates at ground potential, making CE separation conditions and MS operating conditions independent.

### Agilent Electropray Ionization Nebulizer for Capillary Electrophoresis

Description	Part No.
CE-ESI-MS Nebulizer Kit	G1607A
CE/MS Adapter Kit	G1603A



## Agilent Nanospray Source

The Nanospray Source provides attomole level sensitivity and gives you the flexibility of using conventional nanocolumns in one-dimensional or multidimensional chromatography to achieve optimum sample separation. The Nanospray Source requires minimal adjustment and is sealed for increased safety when working with potentially hazardous biological samples.

### Agilent Nanospray Source

Description	Part No.
Nanospray Source	G1982C

## Agilent Atmospheric Pressure Chemical Ionization (APCI) Source

APCI is a popular complement to electrospray ionization and is commonly used to analyze smaller, thermally stable polar and non-polar compounds. The Agilent APCI Source is sensitive, yet extremely robust. It can generate both positive and negative ions, and ion polarity can be switched on a spectrum-to-spectrum basis.

### Agilent Atmospheric Pressure Chemical Ionization (APCI) Source

Description	6000 Series Part No.	Older MS Series Part No.
Atmospheric Pressure Chemical Ionization Source	G1947B	G1947A



## Agilent Atmospheric Pressure Photoionization (APPI) Source

For analysis of compounds that ionize poorly by ESI and APCI, the APPI Source provides a useful alternative. It combines Agilent's proven orthogonal spray nebulization and counterflow drying gas with innovative photoionization from Syagen Technology. The long-lasting krypton lamp emits photons at energy levels high enough to ionize many large classes of compounds, but low enough to minimize the ionization of air and common HPLC solvents.

### Agilent Atmospheric Pressure Photoionization (APPI) Source

Description	6000 Series Part No.	Older MS Series Part No.
Atmospheric Pressure Photoionization Source	G1971B	G1971A

## Agilent Jet Stream Thermal Gradient Focusing Technology



Agilent Jet Stream thermal gradient focusing technology uses super-heated nitrogen ( $N_2$ ) to improve ion generation and desolvation, delivering more ions to the mass analyzer while simultaneously reducing noise. Agilent Jet Stream technology improves sensitivity 5-10X for many small-molecule compounds undergoing electrospray ionization. Available on the Agilent 6230 Accurate-Mass TOF, 6460 Triple Quadrupole and 6530 Accurate-Mass Q-TOF LC/MS Systems.

- Enables highly sensitive MS analysis of pesticides
- No matrix effects in the analysis of drugs in biological fluids



## Agilent 3100 OFFGEL Fractionator

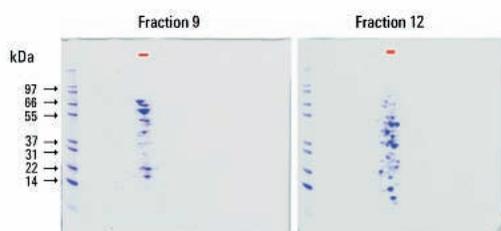
pI-based fractionation of proteins and peptides with liquid-phase recovery

Research shows that prefractionation of proteins and peptides prior to LC/MS analysis can dramatically increase the number of proteins ultimately identified. The new Agilent 3100 OFFGEL Fractionator uses a novel isoelectric focusing technique to achieve excellent pI-based fractionation. The resulting fractions are in solution, making recovery for LC/MS analysis much easier than with old-fashioned gels. Results are highly reproducible, and the 3100 is a model of simplicity and ease of use.

Up- or downstream sample processing steps such as immunodepletion, protein digestion and liquid chromatography can be easily interfaced with this technique for multi-dimensional separations of complex samples.

### Simple, reproducible, and easy to use

- pI-based OFFGEL fractionation with 0.1-0.6 pH resolution depending on consumable kit used
- In-solution fraction recovery for easy transfer to LC/MS
- Two power supplies allow simultaneous fractionation of two sample sets with broad differences in concentration
- Up to 16 samples fractionated at the same time
- µg to mg load capacity
- Possible to run conventional in-gel IEF as well as OFFGEL fractionation
- Preconfigured methods for OFFGEL and in-gel modes
- Online current control for each individual sample



### Achieve highest resolution

The Agilent 3100 OFFGEL Fractionator provides pI-based fractionation of peptides or proteins with exceptional resolution. Samples can be fractionated into 12 or 24 fractions for standard or highest resolution as shown here for 2 protein OFFGEL fractions loaded on 2-dimensional SDS gels.

**Agilent 3100 OFFGEL Fractionator**

<b>Description</b>	<b>Part No.</b>
3100 OFFGEL Fractionator Includes local controller, preinstalled software and default methods, power cable, two electrode sets, two trays, and optional installation and familiarization service.	G3100AA
OFFGEL starter kit Includes IPG gel strips, well frames, cover seals, electrode pads, cover fluid and reagents. Kit contains all components for fractionation and in-liquid recovery of 12 samples: three samples pH 3-10, 12 fractions; three samples pH 3-10, 24 fractions, three samples, pH 4-7, 12 fractions; three samples, pH 4-7, 24 fractions.	5188-6444
OFFGEL low resolution kit, pH 3-10 Includes IPG gel strips, well frames, cover seals, electrode pads, cover fluid and reagents. Kit contains all components for fractionation and in-liquid recovery of 12 samples.	5188-6425
OFFGEL high resolution kit, pH 3-10 Includes IPG gel strips, well frames, cover seals, electrode pads, cover fluid and reagents. Kit contains all components for fractionation and in-liquid recovery of 12 samples.	5188-6424
OFFGEL low resolution kit, pH 4-7 Includes IPG gel strips, well frames, cover seals, electrode pads, cover fluid and reagents. Kit contains all components for fractionation and in-liquid recovery of 12 samples.	5188-6427
OFFGEL high resolution kit, pH 4-7 Includes IPG gel strips, well frames, cover seals, electrode pads, cover fluid and reagents. Kit contains all components for fractionation and in-liquid recovery of 12 samples.	5188-6426
OFFGEL protein test sample Contains a single protein which will focus into only one fraction when used with the low resolution kit, pH 3-10 (part number 5188-6425).	5188-6428
Tray set, four replacement trays	G3100-60007
Electrode assembly Includes one fixed and one movable electrode and one tray.	G3100-60002
12 well frame set Includes 12 well frames (12 wells), cover seals, electrode, pads, glycerol solution, cover fluid and manual. To be used with 13 cm IPG gel strips and respective ampholytes; for use with 5188-6444, 5188-6425, 5188-6427.	5188-8012
24 well frame set Includes 24 well frames (24 wells), cover seals, electrode pads, glycerol solution, cover fluid and manual. To be used with 24 cm IPG gel strips and respective ampholytes; for use with 5188-6444, 5188-6424, 5188-6426.	5188-8013

For more information about the  
Agilent 3100 OFFGEL Fractionator,  
visit [www.agilent.com/chem/offgel](http://www.agilent.com/chem/offgel)

# Automation Solutions for Life Science Applications

From stand-alone units to fully integrated systems, Agilent combines key sample preparation and creative walk-away automation approaches with personalized customer service to provide complete solutions for your laboratory. Combining innovative engineering with high standards of quality, Agilent designs and manufactures high-performance equipment for processes that are revolutionizing pharmaceutical, biotech, and genomic research.



## Agilent Bravo Automated Liquid Handling Platform

The Bravo Automated Liquid Handling Platform is the fastest and most versatile small footprint liquid handling system available, capable of dispensing from 100 nL to 200  $\mu$ L in 96, 384, and 1536 well formats or to a column, row or single well of any of these plate types. Its space-saving nine plate-position footprint can fit inside a standard laminar flow hood, enabling automated liquid handling for cell-based assays or hazardous reagent handling.

- Performs in a laminar flow hood
- Pipetting range of 100 nL to 200  $\mu$ L
- Serial dilutions with standard pipette heads
- Interchangeable pipette heads are swappable in minutes
- User configurable positions for filtration, temperature control, shaking and more

### Agilent Bravo Automated Liquid Handling Platform

Description	Part No.
Bravo Automated Liquid Handling Platform	G5409A

#### Related Supplies

Agilent offers a wide selection of liquid handling and microplate handling consumables, such as disposable tips and thermal microplate seal and adhesive labels for barcoding. For more information, visit [www.agilent.com/lifesciences/automation](http://www.agilent.com/lifesciences/automation).



## Agilent Vertical Pipetting System

Agilent's Vertical Pipetting System is the fastest precision pipettor on the market. The Vertical Pipetting Station features a choice of interchangeable heads, including a 96-, 384-, 8- or 16-channel. Eight sliding shelves are arranged on either side of the pipetting head permitting access to the plates, while conserving deck space. The pipetting head is fitted with a 2-axis positioning stage providing access to all quadrants of 96, 384, and 1536 well microplates. An intuitive user interface allows the operator to create and run complex pipetting protocols with ease.

- Unique eight plate position, small footprint design conserves space for all applications
- Seamless integration into a variety of Agilent and third party automation systems
- Simultaneously pipette while other plates are changed for impressive throughput and significant reduction in assay time
- Pipetting range of 100 nL to 200  $\mu$ L provides savings on costly reagents and compounds so you can miniaturize your assays with confidence

### Agilent Vertical Pipetting System

Description	Part No.
Vertical Pipetting Station	G5401A



## Agilent BenchCel Microplate Handling Workstation

The BenchCel Microplate Handler is a combination of automated microplate handling and storage that delivers the speed and precision of a full-sized automation platform. The BenchCel Microplate Handler features a high-speed robot that can access integrated microplate stacks and peripheral instruments. This customizable, modular design provides the flexibility and scalability required to meet the needs of the most diverse laboratory applications.

- High speed, eight second transfer times from stack to instrument
- 2, 4, or 6 stack configurations for a maximum of 360 standard microplates
- Storage and handling of most microplates, lidded plates, tip boxes and tube racks
- 66% more walk-away time than competitive systems
- Integration of multiple instruments into a single benchtop workstation

### Agilent BenchCel Microplate Handling Workstation

Description	Part No.
BenchCel Microplate Handler	G5410A



### Related Literature

Request the *PlateLoc Thermal Microplate Seal Selection Guide*, publication number **5990-3659EN**, from your local Agilent representative or Agilent Authorized Distributor.

## Agilent PlateLoc Thermal Microplate Sealer

The PlateLoc Thermal Microplate Sealer has distinguished itself as the premier thermal sealer through its speed, small footprint, ease of use and dependability. The PlateLoc design team overcame the challenges of sealing a wide range of microplates by developing a versatile instrument that automatically accommodates deepwell, assay, PCR, and compound storage plates. Standalone mode operation enables full control of sealing time and temperature through the PlateLoc's touch screen, and the PlateLoc is ideal for robotic integration, featuring an extended-travel plate stage, RS-232 serial port and an ActiveX control.

- Touch screen interface for fast and easy manual operation
- Automatically adjusting to accommodate a wide range of microplates and tube racks, the PlateLoc can handle all of your sealing needs
- High precision, with sealing temperature control of  $\pm 2^{\circ}\text{C}$  and advanced seal slitting control, seal integrity will be the same for every plate
- Fast machine cycle times, and no required cool down periods mean you will spend your time sealing plates, not waiting
- With the industry's smallest instrument footprint and numerous proven integrations, the PlateLoc is an ideal choice for system integrators

### Agilent PlateLoc Thermal Microplate Sealer

Description	Part No.
PlateLoc Microplate Sealer	G5402A



## Agilent BioCel System

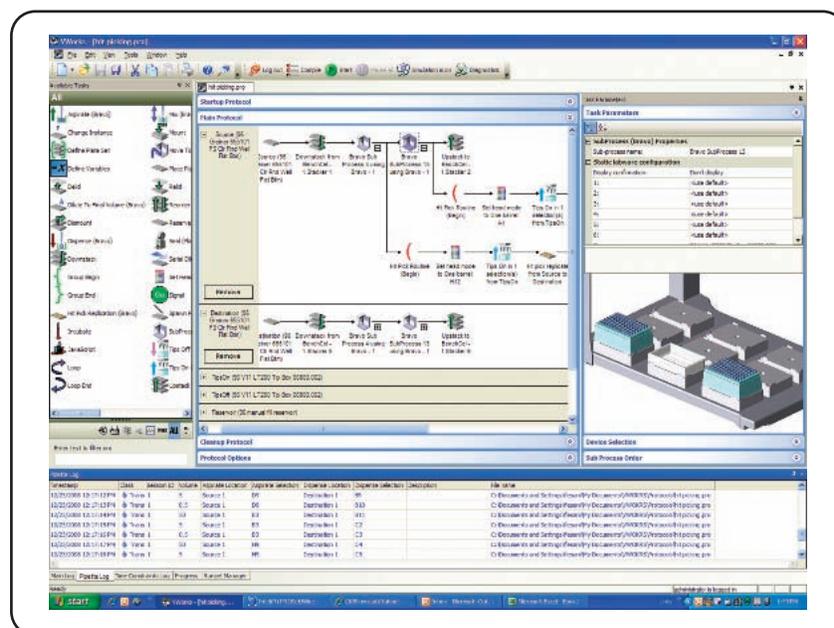
Through innovative design, the BioCel System delivers the functionality of much larger systems in an efficient package optimized for speed and flexibility. With industry-leading engineering, Agilent delivers fully-integrated automated solutions to fit your research requirements in high-throughput screening, cell based assays, plate based cell maintenance, compound management, and genomics applications.

- Compact footprint, saving valuable lab space
- Expand capacity and functionality in the future; just add another BioCel System
- Increased flexibility and capacity with under-table incubators or microplate carousels
- QuickDock docking tables available to easily swap devices or use instruments offline
- Inert, Class 100, and humidity-controlled environments available
- VWorks software, an event-driven controller, ensures highest instrument utilization and maximum system productivity

### Agilent BioCel System

Description	Part No.
BioCel System	G5500A

### Agilent VWorks Automation Control Software





The Agilent Microplate Centrifuge is the smallest robotic-accessible automated centrifuge on the market. It provides unmatched vibration and noise control in a small, low maintenance package. Ideal for high- or medium-throughput applications, the Microplate Centrifuge features a dual position design to accommodate two standard microplates at a time. The Microplate Centrifuge is capable of rapid acceleration and deceleration (a customizable setting), minimizing the required cycle time. It is excellent for filtration protocols, air bubble removal in high density plates and spin-downs including cells and cellular debris.

## Agilent Microplate Centrifuge

- Compact footprint takes up very little bench space and fits easily in integrated systems
- Optional plate loader allows for simple integration into any robotic system
- Stackable design increases system throughput without adding to the footprint
- Low vibration design minimizes impact on adjacent instruments

### Agilent Microplate Centrifuge

Description	Part No.
Microplate Centrifuge	G5405A

## Agilent Microplate Labeler

The Agilent Microplate Labeler applies barcode labels to any or all four sides of a microplate and provides the flexibility to create custom labels. Specifically designed to accommodate a wide range of microplates, the Microplate Labeler adjusts for different skirt heights and deepwell plates using a two-position plate stage which allows the instrument to automatically place labels at either of two vertical label positions (which can be adjusted by the user). Its compact size fits easily on a bench top, while its speed achieves the most aggressive throughput goals while software reads data from your comma-delimited file or can be integrated with a LIMS.

- Push button operation for manual use or automated operation via host PC
- Applies labels on any permutation of one, two, three, or four sides of a microplate in one of two vertical positions
- Wide range of fonts, barcode formats and magnifications for maximum flexibility; Barcode symbologies include Code 39, Interleaved 2 of 5, Code 128 and many others
- Repeatedly print and apply labels at speeds of up to 1 every 3 seconds
- Verify bar codes with available barcode reader and reapply labels if necessary

### Agilent Microplate Labeler

Description	Part No.
Microplate Labeler	G5404A





## Excellent Performance at Unprecedented Speed

The Agilent 8453 UV-Visible Spectrophotometer features a powerful diode-array for fast scanning, excellent sensitivity, virtually absolute wavelength reproducibility, exceptional reliability, minimum maintenance and excellent optical performance. Direct access to an open cell holder and front panel buttons for triggering makes the instrument easy to use.

# Agilent Spectroscopy and Microscopy Solutions

## Agilent 8453A UV-Visible Spectrophotometer

Agilent offers a complete line of UV-Visible Spectroscopy products to meet the diverse needs of routine QA/QC, research, and method development analysts. Complete systems include the Spectrophotometer, PC with operating system and application software, and a printer. For application-specific needs, systems can be customized with additional software and a variety of accessories and supplies.

### Product Specifications

- Wavelength range – 190 to 1100 nm
- Acquisition speed – down to 0.1 s
- Stray light of less than 0.03%

### Accessories

- PC controller with ChemStation software
- Multi-cell transport
- Peltier thermostatted cell holder
- Sipper system
- Autosamplers

### Agilent 8453A UV-Visible Spectrophotometer

Description	Part No.
8453A UV-Visible Spectrophotometer	G1103A
8453 Pharma UV-Visible system with controller	G1815AA
8453 Value UV-Visible system with controller	G1812AA
General purpose UV-Visible ChemStation software	G1115AA
Advanced UV-Visible ChemStation software	G1116AA
Biochemical UV-Visible ChemStation software	G1117AA
Dissolution Testing UV-Visible ChemStation software	G1118AA
Security Pack for UV-Visible ChemStation software	G1813AA

Agilent high-precision cells are tested to meet the highest optical standards. Every Agilent cell comes with a test certificate, ensuring that the following areas have been tested and are within specifications:

- Homogeneity of the raw material
- Dimensional and angle tolerances of the component parts
- Flatness of the optical surfaces
- Transmission of the cells

## Atomic Force Microscopes

Agilent Technologies offers a wide range of high-precision Atomic Force Microscopes (AFM) to meet your unique research needs.



### Agilent 5400 Atomic Force Microscope

#### AFM for Research and Education

The Agilent 5400 is a high-precision AFM engineered to provide superb ease of use and versatility. The Agilent 5400 offers educators an unprecedented opportunity to introduce their students to powerful AFM techniques for materials science, polymers, general surface characterization, and nanolithography.

### Agilent 5500 Atomic Force Microscope

#### Versatile, High-Resolution AFM

The Agilent 5500 AFM is a powerful multiple-user research system. In addition to atomic-scale resolution over a large scan range, its true modularity enables users to add capability-enhancing options. An intelligent design permits the simple integration of numerous imaging modes and easy-to-use, application-specific sample-handling plates. The Agilent 5500 is well suited to electrochemistry, materials science, polymer science, life science, nanografting, and nanolithography.



### Agilent 5500ILM Atomic Force Microscope

#### AFM with Optical Viewing Capability

The Agilent 5500ILM Adapter combines high-resolution AFM imaging with the direct optical viewing capability of an inverted light microscope to provide both atomic force and optical microscopy data. The Agilent 5500ILM is easy to set up, delivers excellent optical contrast, and enables complementary techniques such as FRET, darkfield, and brightfield imaging.

For more information and ordering details, visit [www.agilent.com/find/AFM](http://www.agilent.com/find/AFM)



# Agilent Particle Analyzer Solutions

## Agilent 7010 Particle Size Analyzer

### Accurate Particle Size Distributions with Unprecedented Speed

The Agilent 7010 Particle Size Analyzer accurately uses a robust UV-VIS spectroscopy platform to determine particle size distributions and concentrations by measuring the Mie scattering of materials. The instrument is capable of acquiring data in as little as 5 seconds. Its diode array technology collects multiple wavelengths simultaneously for the fastest possible measurements. The instrument comes with a controller and software for acquisition and diagnostics.

#### Product Specifications

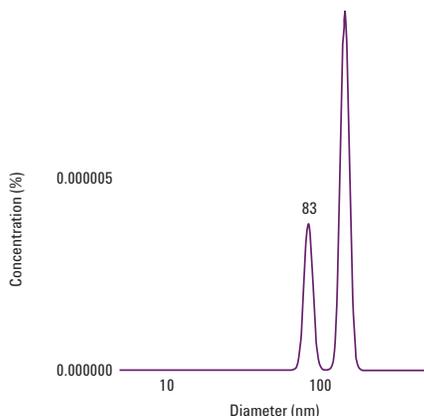
- Particle size accuracy of 0.3%
- Concentration accuracy better than 10%
- Small particle sensitivity of 5%
- Particle size measurement in 5 seconds

#### Agilent 7010 Particle Size Analyzer

Description	Part No.
7010 Particle Size Analyzer	G3748B

**With Agilent's 7010 Particle Size Analyzer, you don't have to sacrifice simplicity or resolution to measure complex dispersions.**

This graph shows the particle size analysis of a mixture of 25% 80  $\mu\text{m}$  gold standard and 75% 140  $\mu\text{m}$  gold standard.





## Agilent 7020 ZetaProbe

### Reliable Zeta Potential Measurements Without Sample Dilution

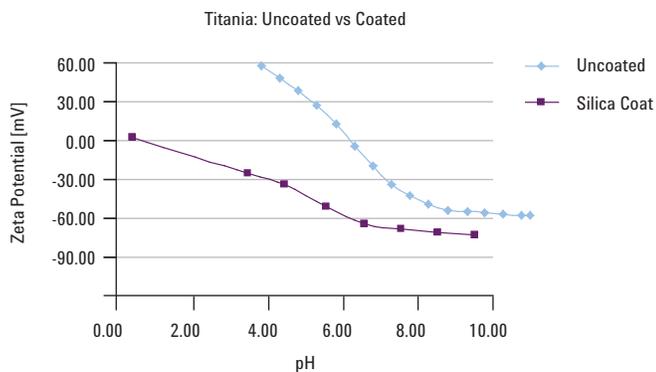
The Agilent 7020 ZetaProbe is a multi-frequency electroacoustic zeta potential analyzer. Rather than using light, like most zeta potential analyzers, the ZetaProbe uses sound. This lets the ZetaProbe measure samples at concentrations up to 60% volume without sample dilution. It automatically compensates for sample size, eliminating the need to manually enter particle size.

- Zeta potential
- No dilution required
- Automatic particle size corrections
- Built-in potentiometric and volumetric titration
- Software wizards

#### Agilent 7020 ZetaProbe

Description	Part No.
7020 ZetaProbe	G3750A
7020 ZetaProbe flow through sensor	G3751A

In this example, the IEP of the uncoated sample is 6.2, while that of the silica coated sample is below pH 1.





## Agilent 7030 Nicomp DLS Particle Size Analyzer

### Particle Size and Zeta Potential

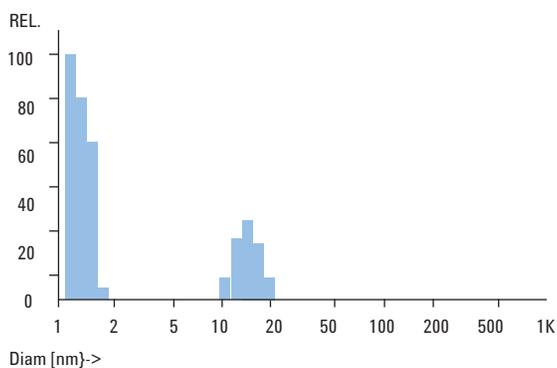
The Agilent 7030 Nicomp DLS Particle Size Analyzer accurately resolves multiple peaks in a multi-modal distribution. Using the dynamic light scattering technique, the instrument resolves particle sizes ranging from sub-nanometer to a few microns. Adding the ZLS option, perform zeta potential and particle size in one instrument.

- Large dynamic range – 0.5 nm to 6  $\mu\text{m}$  particle sizes
- High resolution – able to separate close bi-modal distributions
- Low volume samples – < 10 mL
- Absolute measurement calibration

#### Agilent 7030 Nicomp DLS Particle Size Analyzer

Description	Part No.	Option No.
7030 Nicomp DLS	G3752A	
Autodiluter (AD)	G3752A	#010
Autosampler (AS)	G3752A	#020
Autotitrator (AT)	G3752A	#040
Zeta potential (ZLS)	G3752A	#030

Using its proprietary deconvolution algorithm, Agilent's 7030 Nicomp can uncover true bi-modal distributions. In this example, the main peak was detected at 1.5 nm, while a secondary peak of aggregates was detected at 17 nm.





## Single Particle Optical Sizing

The Agilent 7080 AccuSizer uses a single particle optical sizing (SPOS) technique to accurately detect a large particle in a sea of small particles. The 7080 can detect low levels of aggregates several standard deviations away from the distribution mean. It can detect particles from 0.5 microns to 2500 microns in size. Available in multiple configurations depending on the application.

## Agilent 7080 AccuSizer Particle Size Analyzer

### Product Specifications

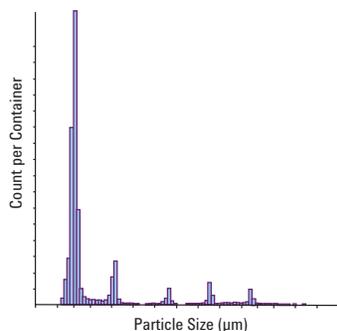
- Particle size range – 0.5 to 2500 microns
- Particle sensitivity of 10 PPT
- Particle size accuracy of 2%
- Particle count accuracy of 10%

### Product Configurations

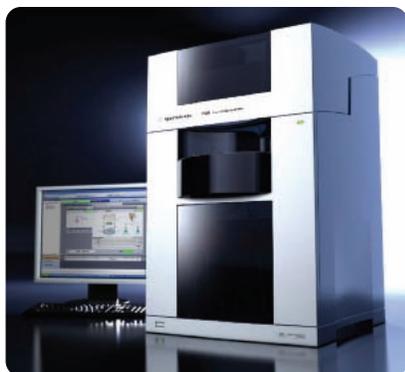
- Multiple configurations for best fit to application
- All systems come with software and PC controller
- Automated operation for reliable results
- New Focused Extinction (FX) technique for high concentrations
- Customized process (on-line) versions available

### Agilent 7080 AccuSizer Particle Size Analyzer

Description	Part No.
7080 AccuSizer SIS – Syringe Injection System	G3753A
7080 AccuSizer AD – Autodilution System	G3754A
7080 AccuSizer ADO – Organic Autodilution System	G3755A
7080 AccuSizer APS – Automatic Particle Size System	G3757A
7080 AccuSizer APS-SS – Single Stage APS System	G3758A
7080 AccuSizer APS-SND – No Dilution APS System	G3759A
7080 AccuSizer APS-MD – Metered Drain APS System	G3760A
7080 AccuSizer APS-DLS – APS/DLS System	G3761A
7080 AccuSizer SEP – Process System	G3763A
7080 AccuSizer FX – Focused Extinction System	G3764A



The 7080 AccuSizer, with its ability to count and size individual particles, is a sensitive tool for constructing a material's true particle size. Here, five latex standards of varying size were used in a single sample; all were successfully located by Agilent's 7080 AccuSizer.



# Agilent Capillary Electrophoresis Solutions

## Agilent 7100 Capillary Electrophoresis System

Maximum sensitivity. Maximum productivity.

Agilent's new 7100 Capillary Electrophoresis System brings unprecedented HPLC-like sensitivity to a wide range of analytical challenges. The system delivers best-in-class analytical performance, the industry's broadest selection of detectors and plug-and-play compatibility with all of Agilent's 6000 Series mass spectrometers. Legendary Agilent reliability, familiar ChemStation software and the confidence of a single-vendor solution all add to the value equation – making the Agilent 7100 CE the clear choice for your lab's next (or first) CE or CE/MS system.

### Detector sensitivity

- Linear dynamic range of  $1 \times 10^4$  combined with a baseline noise of  $< 50 \mu\text{AU}$  for detection of impurities as little as 0.05% of a main peak
- 10-15x better sensitivity than competitive instruments with Agilent bubble cell capillaries

### Improved robustness, reduced cost-of-ownership

- New vial sensor helps avoid conflicts when loading vials on the fly
- Powerful capillary cooling system allows higher currents
- Improved replenishment
- Self test of instrument with Agilent LabAdvisor software



### Easier handling, reliability and service

- 30% lighter with a 25% smaller footprint
- Modular architecture enables easy servicing & maintenance
- Calibration tools for electrodes help to avoid electrode damage



## Agilent 7100 Capillary Electrophoresis System

Description	Part No.	Option No.
7100 Capillary Electrophoresis Instrument Includes Lab Advisor software, Installation Qualification Kit, High Sensitivity Cell and services	G7100A	
7100 Capillary Electrophoresis System Includes Lab Advisor software, Installation Qualification Kit, High Sensitivity Cell and services. Also includes PC bundle with pre-installed ChemStation software, printer and monitor.	G7100B	
High Sensitivity Cell Kit	G1602A	#021
CE/MS Adapter Kit	G1603A	
CE-ESI-MS Nebulizer Kit	G1607A	
CE Installation Qualification (IQ) Kit	5063-6514	
CE OQ/PV Chemicals Only Kit	5063-6520	
Plating Bath Analysis Kit	5064-8228	
Forensic Anions Solutions Kit	5064-8208	
Cation Solutions Kit	5064-8206	
Organic Acids Solution Kit	5063-6510	
Inorganic Anion Solutions Kit	5063-6511	



### CE separation power. HPLC sensitivity.

Agilent's new CE Discovery Kit gives you everything you need to make the best-informed decision when selecting your next (or your first) CE system. Request your FREE Information Kit at [www.agilent.com/chem/7100CE](http://www.agilent.com/chem/7100CE).



# Agilent Bioanalyzer Solutions

## Agilent 2100 Bioanalyzer

One platform –  
endless possibilities  
for DNA, RNA, protein  
and cell analysis

The Agilent 2100 Bioanalyzer is the industry standard for RNA sample QC and has replaced labor-intensive gel electrophoresis for this application. It is also rapidly replacing gel electrophoresis for DNA fragment analysis and SDS-PAGE analysis of protein samples. A unique feature of the Agilent 2100 Bioanalyzer is that it can be used for both electrophoretic separation and flow cytometric analysis of cell fluorescence parameters. This versatility makes the Agilent 2100 Bioanalyzer an indispensable tool for the molecular biologist and biochemist.

### Automated, fast analysis with excellent data quality

- Ready-to-use assays and pre-packaged reagent kits for DNA, RNA, proteins and cells
- Minimal sample consumption (1-5 µL) and results within 30 minutes
- Replaceable electrode cartridge for contamination-free switch of methods
- Digital data for convenient analysis, archiving and storage – share data with others and export it for publication or presentation
- Various data-display options as gel view, electropherograms and tables
- Easy to use with simplified sample comparison
- Minimum exposure to hazardous materials
- Supports compliance with 21 CFR Part 11

### Agilent 2100 Bioanalyzer

Description	Part No.
Agilent 2100 Bioanalyzer (only as an add-on to existing systems)	G2938C
Agilent 2100 Electrophoresis Bioanalyzer System	G2939AA
Agilent 2100 Bioanalyzer Desktop System	G2940CA
2100 Bioanalyzer Laptop System	G2943CA
2100 Bioanalyzer Electrophoresis Set	G2947CA
2100 Bioanalyzer Flow Cytometry Set	G2948CA
2100 Bioanalyzer Security Pack software	G2949CA
2100 Expert SW desktop PC bundle	G2950CA
2100 Expert SW laptop PC bundle	G2953CA

## Cell Solutions

### On-chip flow cytometry – an easy way to acquire cell-based fluorescence parameters

The flow cytometry set for the Agilent 2100 Bioanalyzer allows scientists working with cells to perform simple flow cytometry assays. The set extends the lab-on-a-chip application portfolio of the Agilent 2100 Bioanalyzer from electrophoretic separation assays to automated two color flow cytometric assays. In brief, six samples each 10  $\mu$ L with 20,000 prestained cells are loaded onto the chip and the fluorescence intensities in two channels for about 750 single cells per sample are measured within 25 minutes. Please note: cell solutions are not suitable for the electrophoresis-only Bioanalyzer (G2939AA).

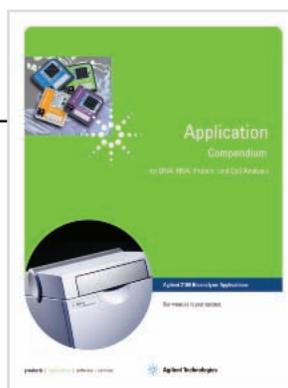
### Advantages of the Lab-on-a-Chip approach

- Easy to use, short setup time with no adjustment of complex instrument parameters
- Analysis of a wide range of cell fluorescence parameters
- Predefined flow cytometric assays for easy startup or protocol development for extra flexibility
- Low cell consumption (20,000 down to 2,500) – enables flow cytometry analysis of primary and other precious cells
- On-chip staining procedure speeds up workflow
- Agilent Cell Checkout Kit checks proper instrument and cell assay operation
- Agilent Cell Kit for analysis of cell fluorescence parameters



### Cell Solutions

Description	Part No.
Cell Kit for analysis of cell fluorescence parameters	5067-1519
Cell Checkout Kit	5067-1520



### 2100 Bioanalyzer Application Compendium

This comprehensive compendium with more than 120 pages presents the wide range of 2100 Bioanalyzer applications for DNA, RNA, proteins and cells. Request your copy at [www.agilent.com/chem/2100compendium](http://www.agilent.com/chem/2100compendium).

## DNA Solutions

### **A smarter solution for nucleic acid analysis**

The Agilent 2100 Bioanalyzer with its DNA kits allow you to automatically size and quantitate PCR fragments and restriction digests accurately and reproducibly. PCR and RT-PCR are among the most widely used techniques in molecular biology. While in some cases, it is sufficient to detect the presence or absence of a PCR product, in many cases quantitation of this product and detection of unspecific amplification is critical. The Agilent 2100 Bioanalyzer is the tool of choice for automated sizing and quantitation of PCR and RT-PCR products in single or multiplex mode with unprecedented accuracy.

With the advent of Next-Generation Sequencing (NGS) platforms; sizing, quantification and quality assessment of fragmented DNA starting material, as well as DNA sequencing libraries, have become essential to achieve highest quality sequencing data. The new Agilent High Sensitivity DNA Kit allows the sizing and quantification of DNA samples in the single-digit pg/ $\mu$ L concentration range.



## Advantages of the Lab-on-a-Chip approach

- Increased sensitivity for DNA fragment analysis – down to 5 pg/μL
- Sizing, quantification and quality control of complex DNA samples – down to 100 pg/μL for fragmented DNA or DNA sequencing libraries
- Sizing accuracy – Normalization to two internal markers and a ladder
- Quantitation accuracy and reproducibility – Automated quantitation of each DNA fragment against internal standards
- High resolution of a large number of bands – Critical for any multiplex PCR application
- Broad linear dynamic range – Enables the detection of less abundant products, e.g. low abundance messages in multiplex RT-PCR amplifications or non-specific amplifications
- Sensitivity – LIF detection for fragments down to 0.1 ng
- Minimal sample consumption – Only 1 μL of material required per analysis
- Quick and easy sample comparison – One-click overlay, scaling or zooming features
- Improved assay precision – Pre-packaged reagents and standardized assay protocols yield highly reproducible data



## DNA Solutions

Description	Part No.
Agilent High Sensitivity DNA Kit for Next-Gen Sequencing workflows	5067-4626
Agilent DNA 1000 Kit for high resolution PCR fragment analysis	5067-1504
Agilent DNA 1000 Reagents	5067-1505
Agilent DNA 7500 Kit for impurity analysis of PCR products	5067-1506
Agilent DNA 7500 Reagents	5067-1507
Agilent DNA 12000 Kit for impurity analysis of PCR products	5067-1508
Agilent DNA 12000 Reagents	5067-1509

## Protein Solutions

### The fast and reliable way to replace analytical SDS-PAGE methods

The Agilent Protein 230 and Protein 80 Kits provide a fast and easy way to analyze a wide range of samples, using Lab-on-a-Chip technology. When used with the Agilent 2100 Bioanalyzer, each chip is capable of providing size, purity and concentration information for ten different protein samples within 30 minutes. The Lab-on-a-Chip approach eliminates handling SDS-PAGE slab gels, staining or imaging steps.

The Agilent High Sensitivity Protein 250 kit is the first microfluidic assay for protein detection in the low picogram range. It offers four orders of magnitude linear dynamic range, allowing quantification of low concentrated impurities next to dominant main peaks in a single run.

### Advantages of the Lab-on-a-Chip approach

- Fast results – Complete automated analysis of 10 samples in 30 minutes
- No manual staining and destaining steps required – All procedures automated during chip run
- Improved assay precision – Pre-packed reagents and standardized assay protocols yield highly reproducible data
- High Sensitivity Protein 250 kit provides silver stain sensitivity (1 pg/μL labeled BSA on Chip) and four orders of magnitude linear range in quantification
- Analyze a large variety of protein samples – Cell lysates, column fractions, antibodies and purified proteins
- Minimal sample consumption – Only 4-5 μL of protein sample required per analysis
- Quick and easy sample comparison – One-click overlay, scaling or zooming features
- Sizing and quantitation in one assay – Allows for relative and absolute quantitation



### Protein Solutions

Description	Part No.
Agilent Protein 80 Kit	5067-1515
Agilent Protein 80 Reagents (no chips included)	5067-1516
Agilent Protein 230 Kit	5067-1517
Agilent Protein 230 Reagents (no chips included)	5067-1518
Agilent High Sensitivity Protein 250 Kit	5067-1575
Agilent High Sensitivity Protein 250 Reagents (no chips included) For separation	5067-1576
Agilent High Sensitivity Protein 250 Reagents (no chips included) For labeling reaction	5067-1577
Agilent High Sensitivity Protein 250 Ladder	5067-1578

## RNA Solutions

### Fast quality control of RNA with minimal sample consumption

RNA quality is critical to the success of microarray and qPCR experiments. The Agilent 2100 Bioanalyzer with its RNA kit portfolio is the industry standard for RNA quality control. It allows monitoring the quality of RNA samples and reliably identifying degraded RNA samples. The software embedded RIN algorithm automates RNA integrity assessment and provides user-independent data.



### RNA quality control solutions

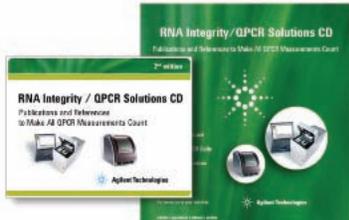
- RNA 6000 Nano Kit – assess the integrity of total and miRNA samples
- RNA 6000 Pico Kit – measure RNA samples in the pg/μL range
- Small RNA Kit – detect and visualize miRNA content in total RNA

### Advantages of the Lab-on-a-Chip approach

- Minimal sample consumption – use as little as 5 ng of total RNA or 200 pg of total RNA for analysis, saving most of your valuable preps
- Faster results – complete automated analysis – 11 or 12 samples in about 30 minutes
- Improved assay accuracy and precision – all-included pre-packaged reagents and standardized assay protocols yield highly accurate and reproducible data
- RNA Integrity Number (RIN) – a reliable tool to compare integrity of RNA samples automatically
- Analyze Small RNA molecules, e.g. miRNA, siRNA, t-RNA within 6-150 nt range
- Freely accessible RNA Integrity Database (RINdb) of RNA profiles

### RNA Solutions

Description	Part No.
Agilent RNA 6000 Nano Kit	5067-1511
Agilent RNA 6000 Nano Reagents	5067-1512
Agilent RNA 6000 Nano Ladder	5067-1529
Agilent RNA 6000 Pico Kit	5067-1513
Agilent RNA 6000 Pico Reagents	5067-1514
Agilent RNA 6000 Pico Ladder	5067-1535
Agilent 2100 Small RNA Kit	5067-1548
Agilent Small RNA Reagents	5067-1549
Agilent Small RNA Ladder	5067-1550



**Related Information**

Order your free copy of the new *Agilent 2100 Bioanalyzer RNA Integrity CD* at [www.agilent.com/chem/rna-cd](http://www.agilent.com/chem/rna-cd).



## Agilent ICP-MS Solutions

### Agilent 7700 Series ICP-MS

Extraordinary design. Unparalleled performance.

As ICP-MS has evolved into the premier technique for trace metals analysis, Agilent has been at the forefront of development and design, introducing many important innovations and achieving unrivalled sales success. With the 7700 Series, Agilent continues to shape the ICP-MS landscape by increasing performance, reducing interferences and improving productivity – all while making the technology easier to use, maintain and service. Common features across the 7700 Series include:

- New, fast frequency-matching RF generator – Provides tolerance to a changing matrix, including switching from aqueous to organic matrices
- Octopole Reaction System (ORS<sup>3</sup>) – Works effectively using helium (He) mode, for simplified operation and consistent results, even in complex sample matrices
- Unique, hyperbolic quadrupole – Effective peak separation and the best Abundance Sensitivity specification of any ICP-MS
- Full 9 orders dynamic range – Allows trace and major elements to be measured in the same acquisition, without user-input



## ShieldTorch System (STS)

- Reduces the plasma potential and narrows the ion energy spread, enabling optimum interference removal in the ORS cell by energy discrimination
- On the 7700s, the ShieldTorch also provides complete flexibility for every application by delivering unmatched cool plasma performance for ultimate BECs in simple matrices where required

## Simplified Tuning and Maintenance

- Simpler, more reproducible plasma optimization with one-click plasma setting
- Expert Auto Tuning – the fastest, most effective and most reliable system optimization program ever developed for ICP-MS
- One-touch access to the interface area, and easier sampling cone removal/refitting during routine maintenance



## MassHunter Workstation

- Batch-at-a-glance review of important information e.g. counts, concentration, RSD and replicate data – all in real time
- Outlier flagging of values such as count RSD, ISTD recovery, calibration linearity, calibration range, etc. ensures potential analytical problems can be located immediately
- Graphical display of internal standard recovery, QC stability plots, calibration curves and mass spectrum (or chromatogram)
- Flexible reporting – export raw data and processed results for single samples, user-defined selections, or an entire batch to Microsoft Excel or your LIMS

**Extensive ICP-MS Supplies Portfolio**

From our high quality ICP torch, sampling and skimmer cones, to our long lifetime electron multiplier detector, Agilent ICP-MS parts and supplies are manufactured to tight tolerances and stringent specifications. They are also rigorously tested to ensure that you'll always get the best performance and results from your instrument.

## Optional Software

- MassHunter Intelligent Sequencing Software provides the ultimate in QA/QC software functionality in real-time, by comparing measured results against expected values and taking appropriate and flexible QC actions
- Integration of Agilent's liquid and gas chromatography ICP-MS speciation measurement kits with MassHunter Chromatographic Software
- MassHunter User Access Control Software provides multilevel user access and audit trail capability to record user logon/logoff event information
- CFR Part 11 compliance made easy through integration with Agilent OpenLab ECM



## Agilent 7700x ICP-MS

### Powerful ICP-MS workhorse for routine and high matrix applications

The 7700x is configured for routine analysis of high matrix samples, and includes High Matrix Introduction (HMI) capability for analysis of very high matrix samples as standard. With its high temperature plasma (resulting in lower oxide interferences), matrix tolerant interface and 9 orders dynamic range, the 7700x provides the ideal combination of robustness, sensitivity and analytical range required from a workhorse instrument. It also retains the flexibility to handle research applications. All of the features expected from the highest specification ICP-MS systems (such as temperature-controlled spray chamber; separate nebulizer and make-up gas controls; high transmission ion lens and true hyperbolic quadrupole), are standard on the 7700x.



#### Octopole Reaction System (ORS<sup>3</sup>)

- Works effectively using helium (He) mode, for simplified operation and consistent results, even in complex sample matrices
- Universal He mode significantly reduces or eliminates matrix-based polyatomic interferences on all analytes, in all sample types - without prior knowledge of sample composition
- He does not react with sample matrix, analyte, or internal standard elements, and therefore cannot form new interferences
- Higher sample throughput with a single gas mode, as no time is lost switching between gases



## Range of Sampling Peripherals

- Agilent ASX-520 Autosampler is ideal for medium to high sample throughput applications, with rack configurations providing up to 360 vial positions
- Integrated Sample Introduction System with Discrete Sampling (ISIS-DS) delivers reduced matrix loading and improved productivity for very high throughput applications
- Pre-configured LC-ICP-MS kits are available for turn-key methods, such as separation of As species in urine and water
- GC-ICP-MS interface for separation and detection of volatile species

## Agilent 7700X ICP-MS – Typical Configuration

Description	Part No.
7700x ICP-MS Mainframe	G3281A
MassHunter Workstation	G7210B
ICP-MS Checkout Solutions	5185-5850
Water Recirculator	G1879B
ASX-520 Autosampler	G3286A
Cell Gas Purification Kit	G3269A



## Agilent 7700s ICP-MS

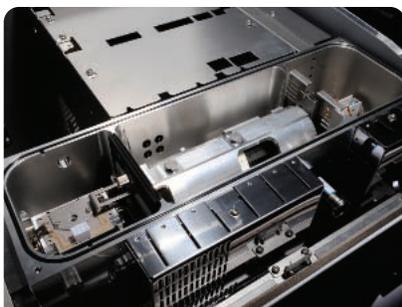
### High performance for ultratrace semiconductor applications

The 7700s is configured for the ultratrace elemental analysis of high purity materials such as those monitored in the semiconductor industry. With a high efficiency sample introduction system, 5th plasma gas line (for addition of optional carrier gases), and second (reaction) cell gas line as standard – the 7700s offers the highest performance for the removal of intense interferences in known and consistent matrices.

With unmatched cool plasma capability, as well as unsurpassed collision/reaction cell performance, the 7700s also delivers industry leading performance for the measurement of easily ionized elements (Li, Na, K Fe and Ca) in high-purity materials, allowing all common semiconductor analytical methods to be performed on the same instrument.

- Enhanced performance in He mode with the ORS<sup>3</sup> cell that provides up to 10x lower LODs compared to the 7500cs
- Reaction mode using hydrogen cell gas as standard, and optional 3rd cell gas line for other reaction gases, such as NH<sub>3</sub> or O<sub>2</sub>
- Built-in tuning and method templates for all common semiconductor applications, including collision/reaction mode and cool plasma mode, ensure the highest data quality and lowest BECs
- Lower heat output and reduced exhaust vent flow, with a redesigned cooling air-flow management system – particularly important in clean-room installations





### Unrivaled Support

With approximately 500 ICP-MS systems installed in semiconductor laboratories around the world, Agilent has an extensive and unrivaled support structure in place for semiconductor ICP-MS users. Worldwide support is available for hardware, software or application questions, delivered by experienced engineers. In addition, Agilent users have access to methods or Standard Operating Procedures (SOP) for all common semiconductor matrices to simplify your method development.

### Range of Optional Sampling Peripherals

- Agilent Integrated Autosampler (I-AS) – a covered autosampler with pumped rinse station, ideal for ultra-trace analysis and small sample volumes (as low as 0.5 mL); flexible rack configurations offer a maximum capacity of 89 vials, plus 3 rinse vials
- Inert Sample Introduction kit suitable for high-purity reagents – O-ring-free and manufactured from PFA for the lowest contamination levels and HF resistance
- Organics kit contains the sample introduction parts you need to run volatile organic solvents

### Prepared for Semiconductor Use

- Platinum interface cones as standard
- Optimized exhaust system (single vent, low pressure-drop) for ducting in cleanroom use

### Agilent 7700s ICP-MS – Typical Configuration

Description	Part No.	Option No.
7700s ICP-MS Mainframe	G3282A	
MassHunter Workstation	G7210B	
ICP-MS Checkout Solutions	5185-5850	
Water Recirculator	G1879B	
Integrated Autosampler (I-AS) with Type E Tray	G3160B	#001, #104
Cell Gas Purification Kit	G3269A	
PFA Inert Sample Introduction Kit	G4912A	#002

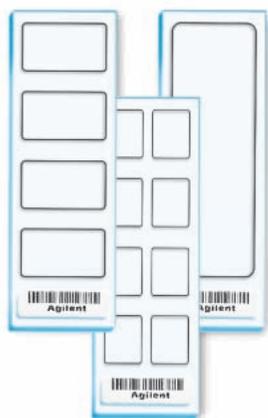


## Agilent Microarray Solutions

### Agilent DNA Microarray Scanner with SureScan High Resolution Technology

Experience a New Level of Performance and Precision

Agilent's new DNA Microarray Scanner with SureScan High-Resolution technology is the key component of microarray-based applications in which increased coverage of the genome is a necessity. Whether performing gene expression studies, aCGH, miRNA profiling, or other novel applications, Agilent's scanning technology is responsible for providing the highest quality data. Agilent's DNA Microarray Scanner provides a complete workflow solution by the integration of hardware, sample processing kits, microarrays and data analysis software.



#### Workflow Solutions

- **Gene Expression** – Explore gene transcription on a genome-wide basis across a variety of model systems
- **Comparative Genomic Hybridization** – Conduct high-resolution, genome-wide profiling of DNA copy number changes from most sample types, including FFPE tissue
- **MicroRNA** – Profile miRNAs and explore the role played in gene regulation with the most robust experimental protocols and frequent array design updates
- **Chromatin Immunoprecipitation** – Elucidate the role that protein-DNA interactions play in processes such as transcription, replication, modification and repair
- **DNA Methylation** – Create high-resolution, genome-wide methylation profiles and gain insight into mammalian DNA methylation and gene regulation
- **Genome Partitioning** – Focus next-gen sequencing efforts on key genomic regions of interest, enabling more powerful and cost-efficient studies of genetic diversity



**Agilent DNA Microarray Scanner  
with SureScan High Resolution Technology**

<b>Description</b>	<b>Part No.</b>
High-resolution microarray scanner bundle	G2565CA
Scanner upgrade, G2565BA to G2565CA	G2539A
<b>Accessories</b>	
Hybridization oven rotator rack	G2530-60029
Hybridization chamber, stainless steel	G2534A
Backing slides, 1 array/slide 5 slides/kit*	G2534-60003
Backing slides, 2 arrays/slide 5 slides/kit*	G2534-60002
Backing slides, 4 arrays/slide 5 slides/kit*	G2534-60011
Backing slides, 8 arrays/slide 5 slides/kit*	G2534-60014

\*Larger quantities available



## Stratagene PCR and QPCR Solutions from Agilent

With the addition of Stratagene PCR and QPCR solutions, Agilent offers the most comprehensive workflow solution for gene expression analysis.

### Flexibility, Convenience and Speed

The new Stratagene Gradient Cycler provides accurate and rapid thermal cycling for PCR amplification and related molecular biological assays. With flexible features such as interchangeable thermal blocks for different throughput and cycling speed requirements, the Stratagene Gradient Cycler easily accommodates changing research environments. In addition, the intuitive software, pre-loaded protocols, and large LCD touch screen allow for quick and convenient instrument operation. The 96-well fast and 384-well thermal blocks feature ramping speeds of up to 5°C/second and are optimized for fast PCR enzymes such as Stratagene's PfuUltra II Fusion and Paq5000 Hotstart DNA polymerases.

### Stratagene Gradient Cycler

- User-changeable thermal blocks for 96-well, 96-well fast, and 384-well operation
- Preloaded, preprogrammed user protocols for Stratagene-brand PCR enzymes
- Gradient operation with temperature range of 30°C-99°C and up to 30°C gradient span

#### Stratagene Gradient Cycler

Description	Part No.
Stratagene gradient cycler with 96-well thermal block	G5100A
Stratagene gradient cycler with 96-well fast thermal block	G5100B
Stratagene gradient cycler with 384-well thermal block	G5100C
96-well thermal block	G5100-64001
96-well fast thermal block	G5100-64002
384-well thermal block	G5100-64003



## Stratagene Mx3005P QPCR System

- Five optical channels with user-selected filter pairs for greater flexibility
- Defined excitation and emission detection wavelengths are ideal for superior multiplex results
- Independent excitation and emission filter control to further expand available dye choices
- Flexible, easy-to-use, powerful MxPro user interface and analysis software

### Offering unmatched flexibility and capability

The Mx3005P QPCR System can support both current and emerging real-time QPCR applications and chemistries to accommodate your research needs now and into the future. Open platform design supports all fluorescent dyes and chemistries including Stratagene's Brilliant II SYBR and probe kits.

With its 5-color detection and user-selectable filters, the Stratagene Mx3005P system accommodates virtually all fluorescent dyes and chemistries. Precision optics and uniform thermal response ensure maximum sensitivity and linear performance over a broad wavelength range. So, all the users in your lab have the freedom to run their applications of choice, including gene expression analysis, SNP genotyping, pathogen detection, and microarray validation.

### Stratagene Mx3005P QPCR System

Description	Part No.
Mx3005P QPCR System 110V with laptop PC	401449
Mx3005P QPCR System 110V with desktop PC	401456
Mx3005P QPCR System 230V with laptop PC	401457
Mx3005P QPCR System 230V with desktop PC	401458
Mx3000/Mx3005P install/validation plate, B-actin	600567
96-well QPCR plates, non-skirted	401333
96-well QPCR plates, semi-skirted	401334
Mx3000P/Mx3005P 96-well plate tubes	410088
Mx3000P/Mx3005P strip tubes	401428
Single PCR reaction tubes (without caps)	410023
Mx3000P/Mx3005P optical strip caps	401425
Benchtop rack for 200 $\mu$ L tubes/V bottom plates	410094
Mx3000P/Mx3005P replacement bulb assembly	401411
One year pre-purchased Mx3000P/Mx3005P service contract	401463
One year Mx3000P/Mx3005P service contract	401464

### Sensitive QPCR and QRT-PCR using SYBR Green and Probe-Based Detection

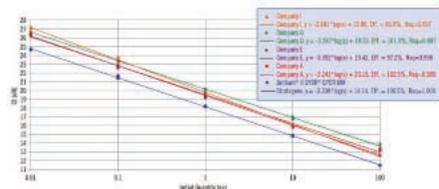
The next generation Stratagene Brilliant II QPCR and QRT-PCR Master Mix Kits offer superior sensitivity for improved quantification and reproducibility. The New Brilliant II Kits also show more consistent performance across a wide range of template concentrations and different targets. Our Brilliant II QPCR and QRT-PCR reagents were developed to maintain the high quality of our original Brilliant product line, but with a significant improvement in sensitivity of detection, ensuring reproducible quantification even at low target concentrations.

## Brilliant II Real-Time Quantitative PCR Reagents

- Earlier Ct detection
- Superior sensitivity and reproducibility
- Now available with ROX
- Both one-step and two-step QRT-PCR formats available
- Greater flexibility for use with numerous different templates and targets

### Brilliant II Real-Time Quantitative PCR Reagents

Description	400 Reactions	4000 Reactions
Brilliant II SYBR Green QPCR Master Mix, 25 µL/rxn	600828	600831
Brilliant II SYBR Green QPCR Core Reagent Kit, 25 µL/rxn	600829	600832
Brilliant II SYBR QPCR Low ROX Master Mix, 25 µL/rxn	600830	600833
Brilliant II SYBR Green QRT-PCR Master Mix, 1-Step, 25 µL/rxn	600825	600826
Brilliant II QRT-PCR SYBR High ROX Master Mix, 1-Step, 25 µL/rxn	600836	600840
Brilliant II QRT-PCR SYBR Low ROX Master Mix, 1-Step, 25 µL/rxn	600835	600839
Brilliant II SYBR Green QRT-PCR AffinityScript Master Mix, 2-Step, 25 µL/rxn	600834	
Brilliant II FAST SYBR QPCR Master Mix, 25 µL/rxn	600843	600844
Brilliant II FAST QPCR Master Mix, 25 µL/rxn	600845	600846



### Brilliant II SYBR Green QPCR Master Mix Delivers Better Sensitivity and Reproducibility Across a Wide Range of Concentrations

Standard curve plot of tenfold dilutions detecting a GAPDH target (150 bp, 52% G/C) from 100 ng down to 0.01 ng of cDNA. The Brilliant II SYBR Green QPCR Master Mix detects template at ~ 1-3 Cts earlier than competitor reagents and with perfect efficiency and Rsq values.



## Highly Specific miRNA QRT-PCR Detection

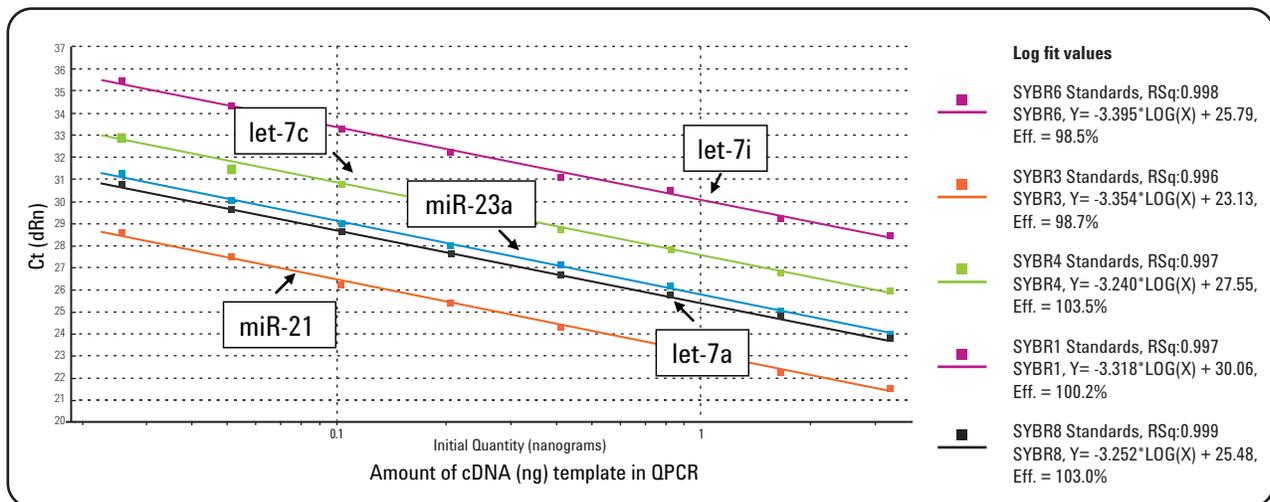
Our High-Specificity miRNA QRT-PCR Detection kits provide qualified reagents for the polyadenylation of microRNAs (miRNAs) from total RNA and the synthesis of 1st strand cDNA from miRNAs. This kit is designed to give the utmost specificity for miRNA QPCR detection. The kit includes two modules consisting of polyadenylation of the miRNA at the 3' end and reverse transcription to convert the polyadenylated miRNA to cDNA (miRNA 1st Strand cDNA Synthesis Kit) and cDNA detection by QPCR (High-Specificity miRNA QPCR Core Kit).

- Detects mature miRNA
- Differentiate miRNA that differ by a single nucleotide
- Sensitive detection down to 10 copies
- miRNA specific forward primers

### Highly Specific miRNA QRT-PCR Detection

Description	Part No.
High-Specificity miRNA QRT-PCR Detection Kit, 200 reactions	600580
High-Specificity miRNA QPCR Core Kit, 200 reactions	600545
miRNA QRT-PCR 1st Strand cDNA Synthesis Kit, 50 reactions	600036
Universal Reverse Primer	600037

### Wide, Linear, Dynamic Range of at Least Seven Logs Allows Quantitation of a Few Copies to Millions of Copies



Linearity was demonstrated with twofold dilutions of HeLa cDNA and detection of five different miRNAs of varying abundance; miR-21, miR-23a, let-7a, let-7c, and let-7i. This wide range in signal linearity allows for accurate quantitation of miRNAs of varying abundance.



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Stratagene gradient cycler with 384-well thermal block	G5100C
96-well thermal block	G5100-64001
96-well fast thermal block	G5100-64002
384-well thermal block	G5100-64003



## Stratagene Mx3005P QPCR System

- Five optical channels with user-selected filter pairs for greater flexibility
- Defined excitation and emission detection wavelengths are ideal for superior multiplex results
- Independent excitation and emission filter control to further expand available dye choices
- Flexible, easy-to-use, powerful MxPro user interface and analysis software

### Offering unmatched flexibility and capability

The Mx3005P QPCR System can support both current and emerging real-time QPCR applications and chemistries to accommodate your research needs now and into the future. Open platform design supports all fluorescent dyes and chemistries including Stratagene's Brilliant II SYBR and probe kits.

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Mx3000P/Mx3005P strip tubes	401428
Single PCR reaction tubes (without caps)	410023
Mx3000P/Mx3005P optical strip caps	401425
Benchtop rack for 200 $\mu$ L tubes/V bottom plates	410094
Mx3000P/Mx3005P replacement bulb assembly	401411
One year pre-purchased Mx3000P/Mx3005P service contract	401463
One year Mx3000P/Mx3005P service contract	401464

## Sensitive QPCR and QRT-PCR using SYBR Green and Probe-Based Detection

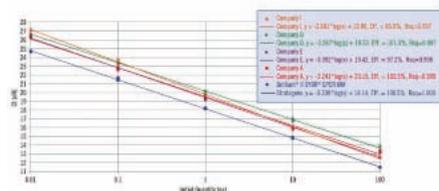
The next generation Stratagene Brilliant II QPCR and QRT-PCR Master Mix Kits offer superior sensitivity for improved quantification and reproducibility. The New Brilliant II Kits also show more consistent performance across a wide range of template concentrations and different targets. Our Brilliant II QPCR and QRT-PCR reagents were developed to maintain the high quality of our original Brilliant product line, but with a significant improvement in sensitivity of detection, ensuring reproducible quantification even at low target concentrations.

## Brilliant II Real-Time Quantitative PCR Reagents

- Earlier Ct detection
- Superior sensitivity and reproducibility
- Now available with ROX
- Both one-step and two-step QRT-PCR formats available
- Greater flexibility for use with numerous different templates and targets

### Brilliant II Real-Time Quantitative PCR Reagents

Description	400 Reactions	4000 Reactions
Brilliant II SYBR Green QPCR Master Mix, 25 µL/rxn	600828	600831
Brilliant II SYBR Green QPCR Core Reagent Kit, 25 µL/rxn	600829	600832
Brilliant II SYBR QPCR Low ROX Master Mix, 25 µL/rxn	600830	600833
Brilliant II SYBR Green QRT-PCR Master Mix, 1-Step, 25 µL/rxn	600825	600826
Brilliant II QRT-PCR SYBR High ROX Master Mix, 1-Step, 25 µL/rxn	600836	600840
Brilliant II QRT-PCR SYBR Low ROX Master Mix, 1-Step, 25 µL/rxn	600835	600839
Brilliant II SYBR Green QRT-PCR AffinityScript Master Mix, 2-Step, 25 µL/rxn	600834	
Brilliant II FAST SYBR QPCR Master Mix, 25 µL/rxn	600843	600844
Brilliant II FAST QPCR Master Mix, 25 µL/rxn	600845	600846



### Brilliant II SYBR Green QPCR Master Mix Delivers Better Sensitivity and Reproducibility Across a Wide Range of Concentrations

Standard curve plot of tenfold dilutions detecting a GAPDH target (150 bp, 52% G/C) from 100 ng down to 0.01 ng of cDNA. The Brilliant II SYBR Green QPCR Master Mix detects template at ~ 1-3 Cts earlier than competitor reagents and with perfect efficiency and Rsq values.



## Highly Specific miRNA QRT-PCR Detection

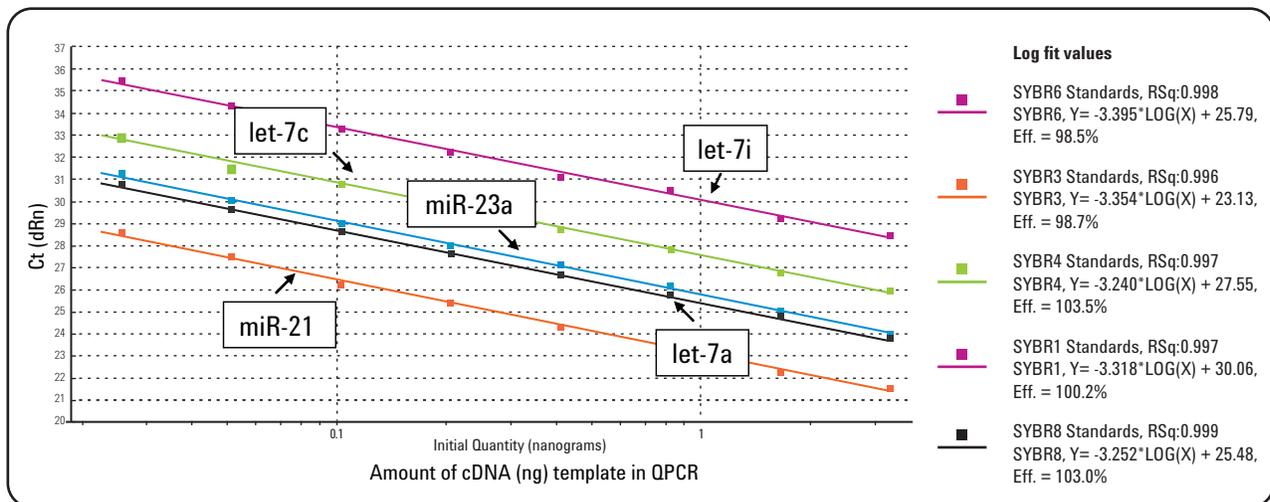
Our High-Specificity miRNA QRT-PCR Detection kits provide qualified reagents for the polyadenylation of microRNAs (miRNAs) from total RNA and the synthesis of 1st strand cDNA from miRNAs. This kit is designed to give the utmost specificity for miRNA QPCR detection. The kit includes two modules consisting of polyadenylation of the miRNA at the 3' end and reverse transcription to convert the polyadenylated miRNA to cDNA (miRNA 1st Strand cDNA Synthesis Kit) and cDNA detection by QPCR (High-Specificity miRNA QPCR Core Kit).

- Detects mature miRNA
- Differentiate miRNA that differ by a single nucleotide
- Sensitive detection down to 10 copies
- miRNA specific forward primers

### Highly Specific miRNA QRT-PCR Detection

Description	Part No.
High-Specificity miRNA QRT-PCR Detection Kit, 200 reactions	600580
High-Specificity miRNA QPCR Core Kit, 200 reactions	600545
miRNA QRT-PCR 1st Strand cDNA Synthesis Kit, 50 reactions	600036
Universal Reverse Primer	600037

### Wide, Linear, Dynamic Range of at Least Seven Logs Allows Quantitation of a Few Copies to Millions of Copies

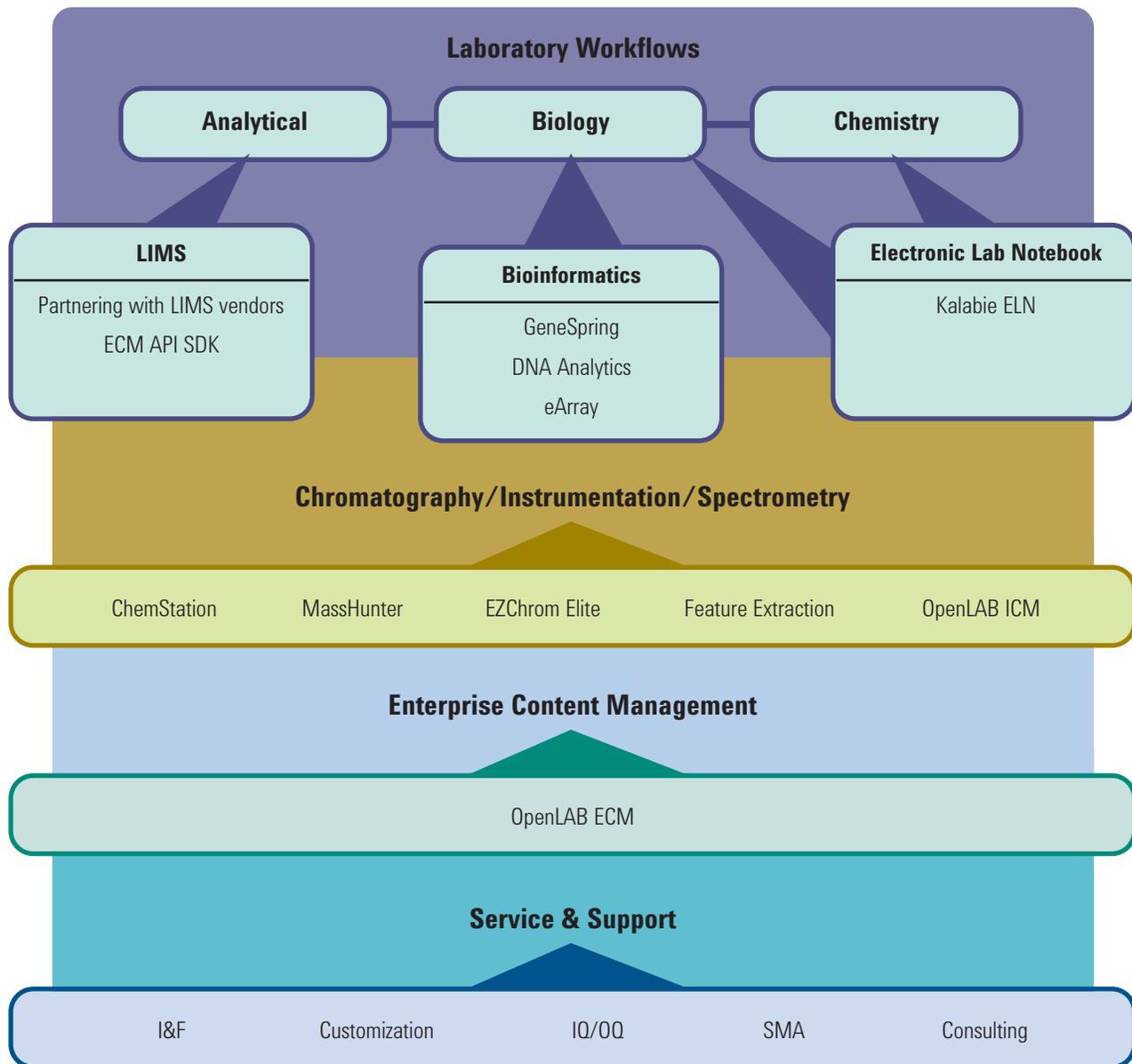


Linearity was demonstrated with twofold dilutions of HeLa cDNA and detection of five different miRNAs of varying abundance; miR-21, miR-23a, let-7a, let-7c, and let-7i. This wide range in signal linearity allows for accurate quantitation of miRNAs of varying abundance.



## Enterprise Application Integration

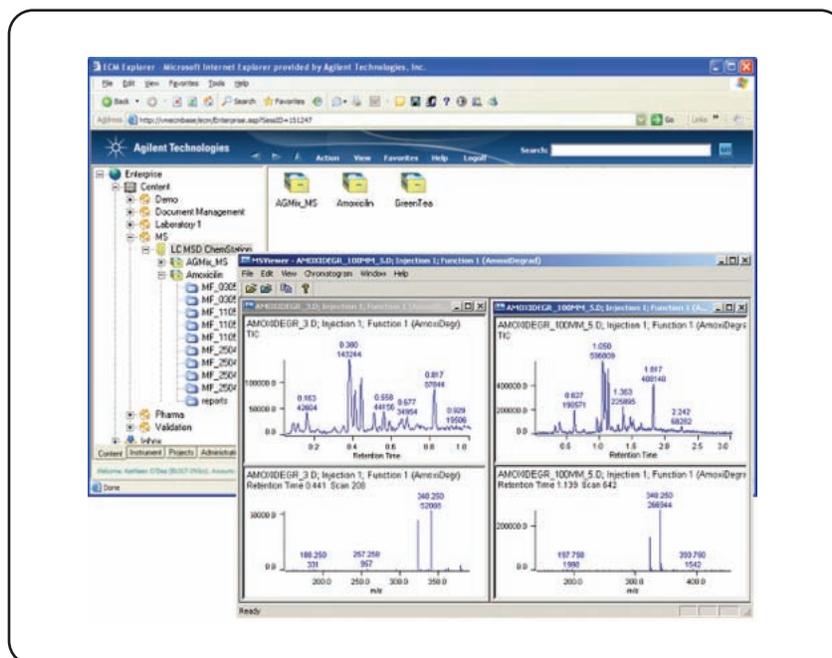
Agilent Software Solutions give you the tools you need to build better, faster workflows, and keep your lab running at top efficiency. Our comprehensive software portfolio integrates chromatography, instrumentation, and spectrometry; enterprise applications; analytical, biology and chemistry workflows; LIMS; bioinformatics; and electronic laboratory notebooks.



## Agilent ChemStation

### Highest Level of Control for Agilent Instrumentation

Agilent ChemStation is the industry leading chromatography data system for Agilent instrumentation, handling the widest variety of separation techniques such as GC, LC, LC/MS, CE and CE/MS. It is a scalable data system ideally suited for applications in all industries ranging from early product development to quality control. Extensive customization capabilities as well as configurable regulatory compliance provide the flexibility to support different workflows. Sophisticated level-5 control and monitoring of LAN-based instruments ensures fast and flexible data acquisition, which is complemented by advanced data analysis and reporting capabilities for highest productivity.



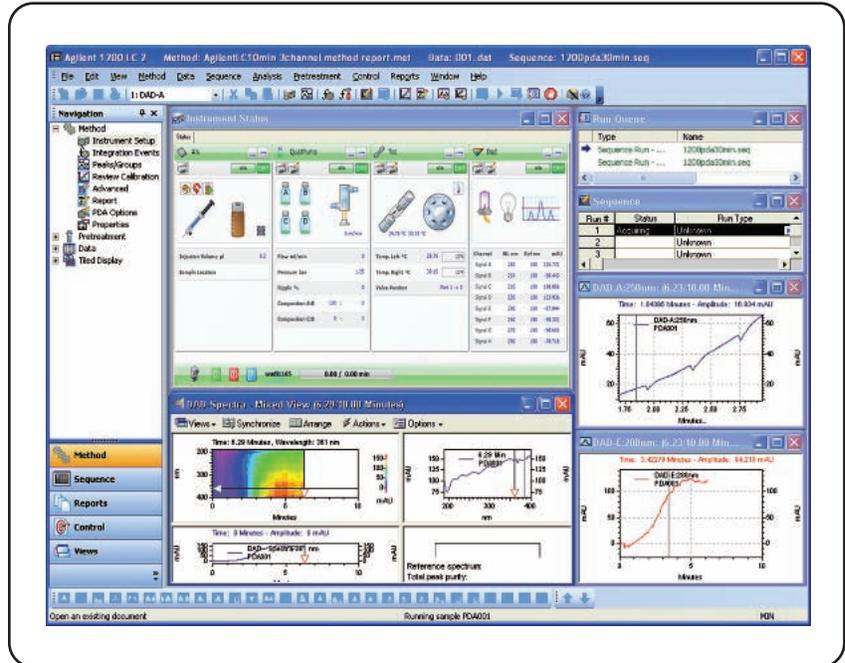
ChemStation integration with OpenLAB Enterprise Content Manager (ECM) enables data storage and management in one central repository.

- Control of Agilent LC, GC, CE, CE/MS and LC/MS instruments and generic A/D converters as well as detectors such as ESA Biosciences' Coulochem and Corona CAD detectors
- Advanced, easy to use data review capabilities for fast result generation and sample-based reporting
- Add-on software modules for support of specific R&D workflow solutions
- Enhanced integration with OpenLAB Enterprise Content Manager (ECM) provides for central management of data, master methods and sequence templates
- More than 40 ChemStation user privileges can be combined into different roles and administered in OpenLAB ECM
- Seamless integration in non-regulated or highly-regulated workflows, including support for 21 CFR Part 11 (requires OpenLAB ECM)
- Efficient and flexible processing and presentation of sequence-based results or across sequences with the add-on OpenLAB Intelligence Reporter
- Easily customization through built-in macro language to meet individual needs
- Seamless compatibility of data, method and sequence files with earlier revisions
- Backwards compatibility for control of older GPIB-based instrumentation

## Agilent EZChrom Elite

### Most Comprehensive Multi-Vendor Instrument Control

EZChrom Elite provides chromatography data acquisition, processing and control of GC and LC chromatographs and is used in chromatography operations ranging from single user/single instrument to multi-user/multi-instrument laboratories throughout the world. Supporting over 330 chromatograph modules from over 25 different manufacturers, EZChrom Elite provides a unified computing strategy for the laboratory so that users can work with a variety of instruments through a uniform user interface.



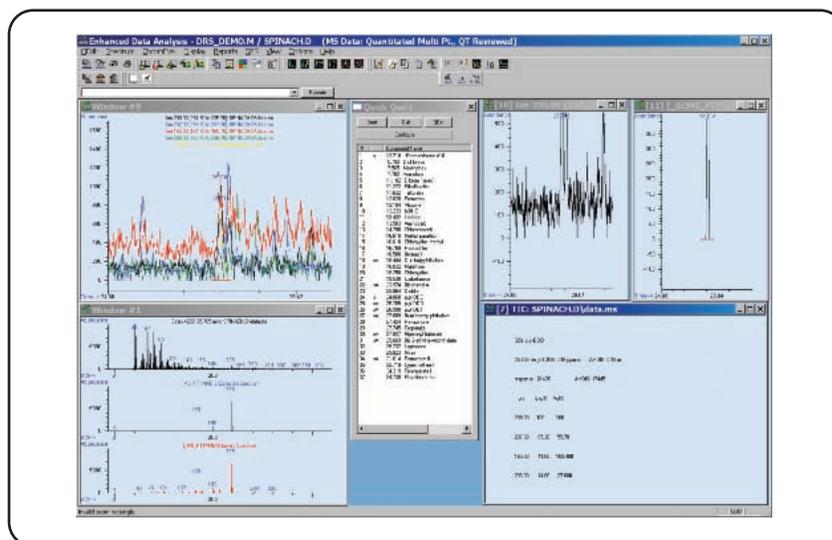
EZChrom Elite with Agilent 1100/1200 control, DAD, Smart Sequence and Run Queue

- Software that is scalable from a Single User to multi-site Client/Server Enterprise
- Work smarter and be more productive with Smart Sequencing
- Powerful, Flexible Reporting Tools
- Meet the needs of GLP and 21 CFR Part 11 with Configurable Compliance
- Tailored to the needs of petrochemical and pharmaceutical laboratories
- Single interface throughout the lab simplifies operation and user training
- Controls the 1120 LC and 7820 GC

## Agilent MSD Productivity ChemStation

### Matches Your Workflow and Maximizes Your Productivity

The MSD Productivity ChemStation is a full-featured, integrated GC/MS software application for all the tasks associated with GC/MS data acquisition, data processing, and reporting. From sample introduction to final report, MSD Productivity ChemStation software simplifies the analytical process and provides the tools you need to improve laboratory productivity.



The enhanced data analysis reporting package

#### Advanced Instrument Control

- Fast, easy setup and operation with automated tuning for Agilent GC/MS single quadrupole instruments
- Control of two GC/MSD systems from a single PC
- Simultaneous acquisition of SIM and Scan data for high sensitivity quantitation and library searchable spectra
- Simultaneously acquired MSD and GC detector signals

#### Simplified Configuration of Methods

- Import/export of shared methods (eMethods)
- Guided setup of new calibration tables based upon automatic integration and library search results (AutoQuant)
- Automatic conversion of any full scan method to a high sensitivity SIM or SIM/Scan method (AutoSIM)

#### High Productivity Data Analysis

- Quantitative power for over 2000 compounds at 20 levels of calibration with 4 curve fit options
- Reprocess a previously run sequence while acquiring data
- Direct comparison of multiple data files from multiple detectors (MS and GC)

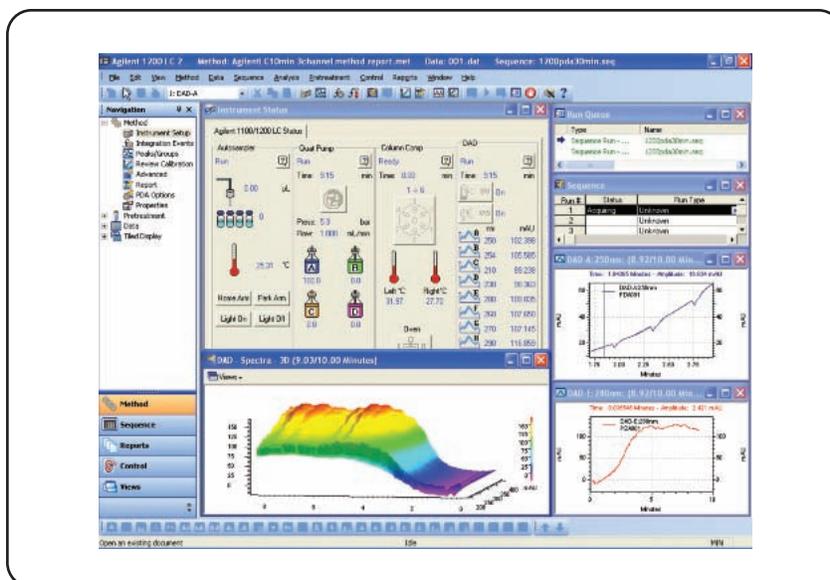
#### Reporting and Customization

- General purpose and tailored report packages: Enhanced, EnviroQuant (USEPA), DrugQuant and Aromatics in Gasoline (ASTM)
- Macro programs to automate repetitive steps (mouse actions, menu choices and typed entries) and customize processes
- MSD Security ChemStation to address data security, integrity and traceability mandated by FDA's 21 CFR Part 11



## OpenLAB Instrument Control Manager (ICM)

OpenLAB's extensive instrument control software enables laboratories that incorporate a multi-vendor, heterogeneous mixture of instruments to integrate everything under a single software platform. It enables instrument control of more than 300 chromatography modules from more than 25 leading manufacturers. OpenLAB ICM allows networked data acquisition of all instruments through the Agilent Instrument Controller. Real-time access and control of all instruments is made possible through Web clients. OpenLAB ICM also includes a complete data analysis package.

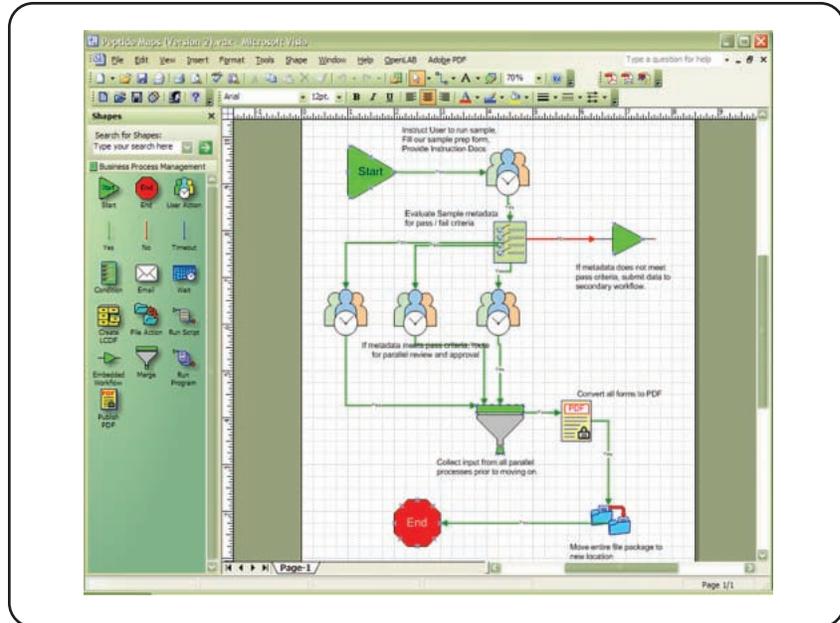


OpenLAB ICM offers full-featured chromatography workflow support. The ICM main page displays all relevant run information and status, with further review just a click away.

- An add-on application to Enterprise Content Manager (ECM)
- Instrument data and information is stored in ECM and includes full searching and sorting, on-line archiving, maintenance operations, and more
- When coupled with the Business Process Manager (BPM), instrument maintenance schedules can be automated and instruments can be locked down from use when maintenance is not performed in a timely manner

## OpenLAB Business Process Manager (BPM)

OpenLAB BPM automates, streamlines and optimizes key business processes relating to employee productivity, cost containment, risk management, compliance and more. The BPM module integrates easily into OpenLAB ECM, and user interfaces are based on familiar productivity tools. No coding is required to define, configure and deploy a business process. BPM allows users to pre-screen analytical results stored in the Enterprise Content Manager (ECM).



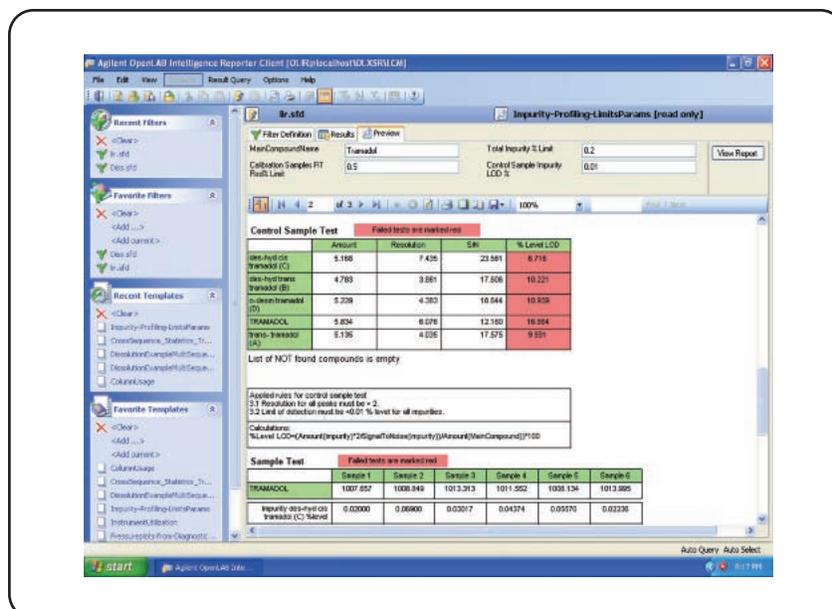
Creating workflows is simple with the MS Visio based business process manager. This example workflow reflects a specification acceptance procedure that could be implemented for a product's release.

- Streamline, automate, and optimize mission-critical business processes while enabling seamless collaboration between people, processes and content
- Designed with ease-of-use in mind, so there is zero coding required to define, configure, and deploy a business process
- User interfaces are based on familiar productivity tools that every knowledge worker understands, such as Microsoft Internet Explorer, Visio, Outlook, Excel, and Adobe Designer (for eForms)

## OpenLAB Intelligence Reporter

Agilent OpenLAB Intelligence Reporter offers easy generation of complex chromatographic reports. The reports easily combine results of experiments within one sequence as well as those acquired in multiple sequences. Tightly integrated into OpenLAB, the OpenLAB Intelligence Reporter increases productivity through automated distribution of reports based on pass/fail criteria. Rich functionality includes search-based report content selection (sequence-based and across sequences), custom calculations (such as summary calculations, statistics and complex tests) and the ability to condense information by visualizing key results in formats such as trend charts.

- An add-on application to Enterprise Content Manager (ECM)
- Increase efficiency of data review by interactive reporting
- Faster decisions by content-based result presentation

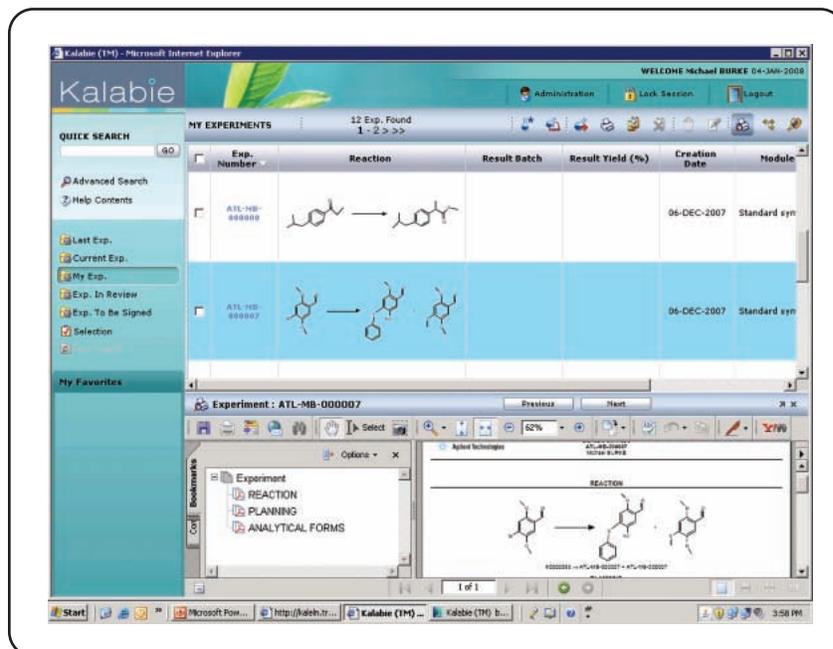


OpenLAB Intelligence Reporter's interactive reporting and content-based results provide impurity-profiling reports with complex calculations and fields to enter impurity levels for flagging of outliers.

## Agilent Kalabie

### Spend Less Time on Paperwork and More Time on R&D

If creating and managing knowledge is a critical part of your organization's mission, here's how to do it faster, easier and smarter: Kalabie Electronic Lab Notebook (ELN). More than just "going paperless," Kalabie ELN gives you a scalable, integrated platform for cross-team collaboration. In an increasingly complex global environment, it simplifies and accelerates the R&D process and streamlines data management – all within a robust IP protection solution. Built around an open architecture, Kalabie ELN is a multi-discipline solution for chemistry, analytical and biology laboratories and has flexible tools to design workflows that reflect your lab's processes.



Chemistry interface for chemical synthesis. Kalabie ELN accommodates chemistry cartridges from a variety of suppliers. Planned experiments are designed in the user interface and then can be easily captured in a PDF format to quickly create reports.

- Kalabie ELN has an experiment management interface available for users to manage and store experiment parameters.
- Information can be recalled quickly with the search interface, allowing users to create, execute and store complex queries combining many criteria into a Boolean expression.
- The Signature Workflow feature is imprinted into each notebook file and stored with each experiment's results.
- The Analytical Request Manager (ARM) provides the necessary link between chemical product development and analysis laboratories; Scientists can submit requests for sample analysis directly from the Kalabie interface.

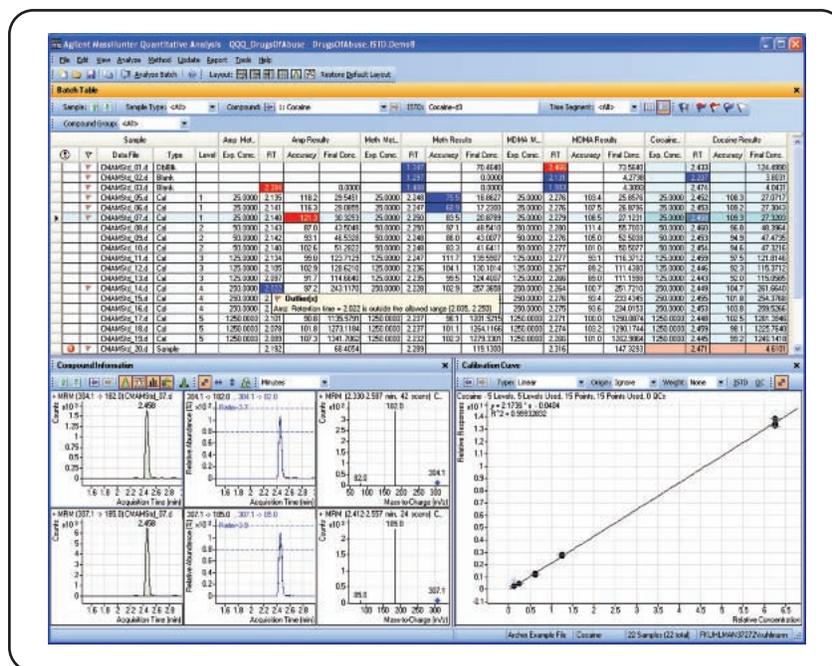
## Agilent MassHunter Workstation Software

### Making MS Operation Easier – From Tuning to Final Report

From instrument tuning to final report, Agilent's MassHunter Workstation software was designed to make all your MS analyses faster, easier and more productive.

The software provides a single acquisition platform for Agilent LC/MS TOF, Q-TOF and Triple Quad instruments – and a single, consistent data processing package for all your Agilent 6000 Series LC/MS Systems (MassHunter Workstation for GC/MS and 6100 Series Single Quadrupole LC/MS Systems is coming soon).

MassHunter software incorporates advanced feature extraction, data mining and data processing tools that let you rapidly and accurately extract all available information from the compounds in your samples, as well as leverage the high information content of accurate-mass MS and MS/MS data.



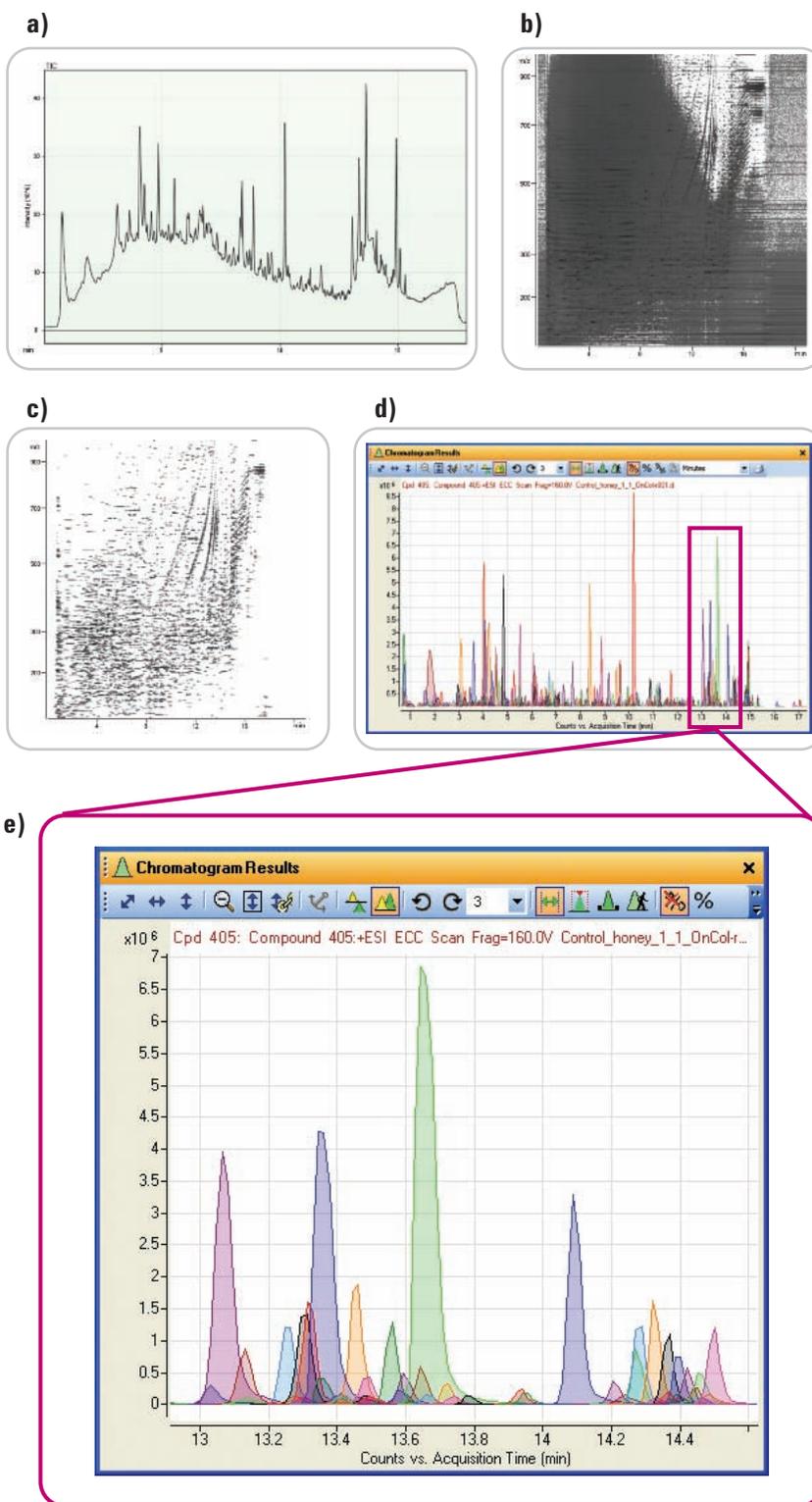
- Fast, easy setup and operation with automated tuning for both triple quadrupole and Q-TOF instruments and importing worklists from spreadsheets to save time in method
- Powerful yet simple data analysis with separate, specialized modules for instrument control and data acquisition, qualitative identification of unknowns, and quantitation of target compounds
- Fast, flexible data reporting with preconfigured reports that simplify basic analyses, or completely customized reports courtesy of Microsoft Excel and XML

### Archive MassHunter data, results and methods in Agilent OpenLAB Enterprise Content Manager

For archiving MassHunter data files, including results and methods, a seamless integration with Agilent OpenLAB Enterprise Content Manager (ECM) enables easy indexing and searching of all sample information with automatic scheduling of data transfer to an ECM server.

Powerful tools help you extract the information you're looking for

Unlike traditional data processing software that works on 2D chromatograms (a), MassHunter Workstation software uses its unique Molecular Feature Extractor (MFE) algorithm to work directly with the 3D accurate mass LC/MS data set (b), MFE fully and automatically removes noise due to matrix contribution (c) and extracts compound chromatograms (d) and compound mass spectra for each component. The overlaid compound chromatograms (e) show the exact location and elution profile for each compound in the sample, even if multiple compounds partially or fully co-elute.

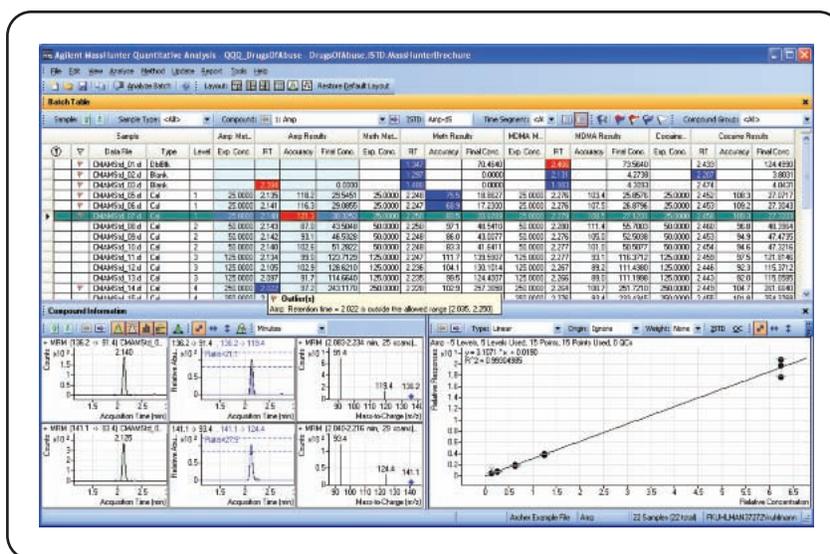


## Agilent MassHunter Data Analysis

"Compound-centric" data processing and intuitive, workflow-driven navigation shorten the path between raw analytical results and the answers you're looking for. One easy-to-learn interface handles not only your basic qualitative and quantitative analysis tasks, but also integrates seamlessly with application-specific software.

### MassHunter Quantitative Analysis Software

MassHunter Quantitative Analysis software is easy to learn and use, and offers unprecedented productivity for large, multi-compound batches. A parameterless integrator with built-in peak validation capability lets you focus on problem peaks only. The software also provides tools for work in 21 CFR Part 11 compliant environments, including user login, session lock, configurable user roles, electronic signatures and a comprehensive audit trail.



MassHunter Quantitative Analysis software ensures that you spend less time analyzing your data. It includes helpful features such as batch-at-a-glance data review, a curve-fit assistant, dynamically linked results, outlier flagging and customizable views. All this, with the flexibility of compound- or sample-centric navigation.

### Software and services that support the regulated lab

MassHunter software provides comprehensive tools to help you address the requirements of GLP/GMP and 21 CFR Part 11 compliance. Agilent also offers a complete suite of Installation and Operation Qualification services to shorten the time between installation and running critical samples.

### MassHunter Metabolite ID Software

MassHunter Metabolite ID software offers the widest selection of algorithms available in the industry, allowing you to find and confirm expected metabolites via accurate mass, isotope pattern and mass defect.

The screenshot displays the Agilent MassHunter Metabolite ID software interface for a file named 'Nefazodone\_15.mid'. The interface is divided into several panels:

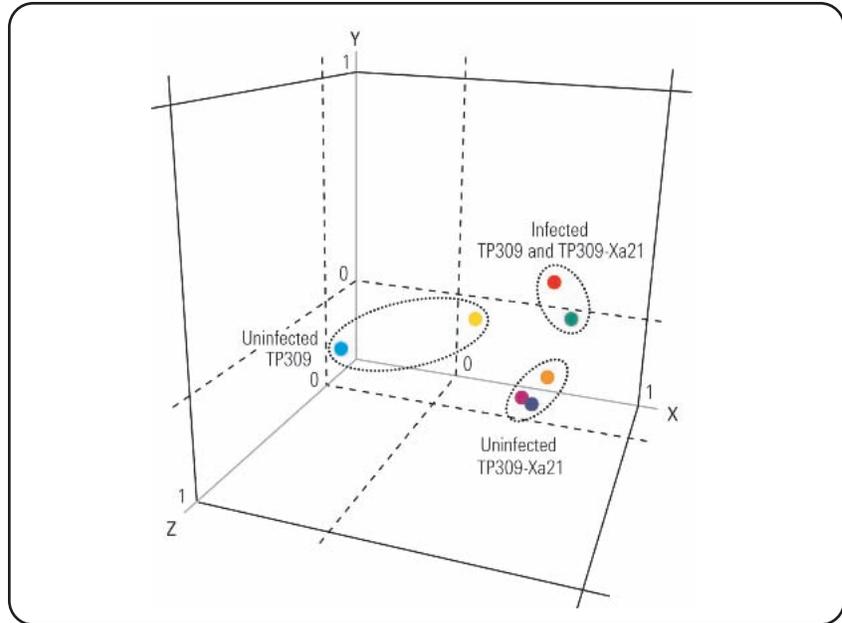
- Metabolites Browser (Short Summary):** A table listing metabolites with columns for Name, RT, Mass, m/z, Qualified, Relevance, User Qual., and various quality metrics. Annotations point to this table as 'Configurable results table showing Summary View' and to a specific row as 'Compound-centric data navigation'.
- Structure:** A chemical structure viewer showing the structure of Nefazodone.
- Chromatograms & Spectra:** Displays chromatograms and mass spectra. An annotation points to the 'Integrated Novatia AutoShift algorithm'.
- Formulas:** A table showing the selected formula (C25H30N5O2) and its calculated mass (469.2245). It also includes a table for ion formulas and abundance.
- Fragments:** A table showing fragmentation data with columns for m/z, z, Abund., Abund. Sum %, Res., Width, Neutral Loss, FPM m/z, Shift m/z, and Shift [mDa]. An annotation points to this table as 'Fragments table'.
- Molecular Formula Generator, MFG:** A section at the bottom right showing '85 of 85 metabolite candidates' and buttons for 'Constant' and 'Saved'. An annotation points to this section as 'Molecular Formula Generator, MFG'.

MassHunter Metabolite ID software simplifies metabolite identification without taking away your choice or control. The versatile, powerful application package can reduce your data processing, review and reporting from days to hours.



### GeneSpring MS Software

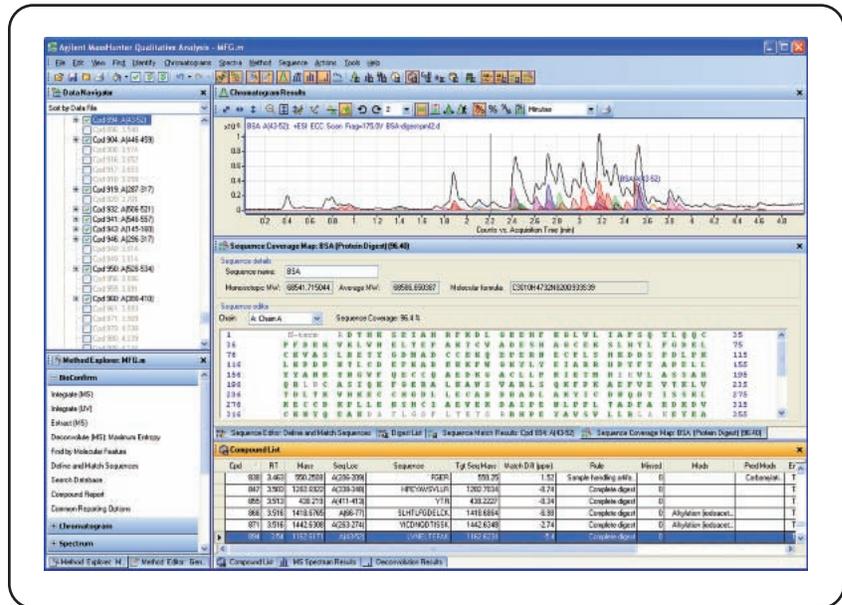
Agilent's GeneSpring MS software is a powerful solution for the discovery of biomarkers through the analysis of mass spectrometric data. You can easily import, normalize, compare, and display mass spectral data from large sample sets and complex experimental designs. This includes GC/MS data, and LC/MS or CE/MS data from Agilent TOF, Q-TOF, and Triple Quadrupole instruments.



GeneSpring MS is a unified, easy-to-use platform for mass spectral data normalization and comparison that helps you answer the complex biological questions targeted by metabolomics and proteomics studies.

### MassHunter BioConfirm Software

MassHunter BioConfirm software uses sophisticated algorithmic tools for automated, unattended or interactive confirmation and characterization of recombinant proteins or synthetic peptides, providing an accurate determination of the mass and abundance of each peptide or protein variant.



Interactive Sequence Editor/Matcher in the BioConfirm software helps locate the site of the modification, when analysis of recombinant proteins indicates that the wrong protein was produced. The unique protein Molecule Feature Extractor enables complex mixture analysis via related ion deconvolution.

### Spectrum Mill for MassHunter Workstation

Spectrum Mill for MassHunter Workstation quickly identifies proteins and peptides via fast database searches, and provides automatic and manual match validation. The software also supports both label-free and stable-isotope based quantitation strategies with superior visualization tools.

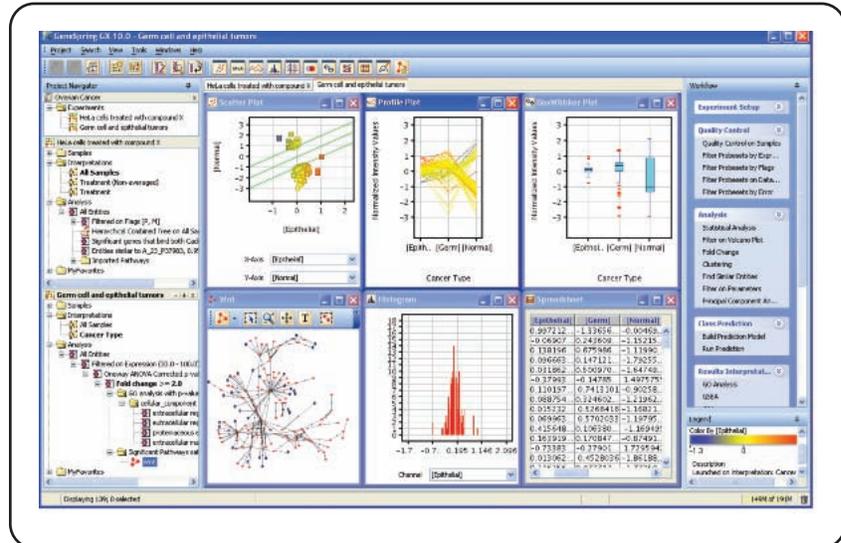
HeLa-OGE-2GHz-fr15 total intensity	HeLa-OGE-2GHz-fr16 total intensity	HeLa-OGE-2GHz-fr17 total intensity	HeLa-OGE-2GHz-fr18 total intensity	HeLa-OGE-2GHz-fr19 total intensity	HeLa-OGE-2GHz-fr20 total intensity	HeLa-OGE-2GHz-fr21 total intensity	HeLa-OGE-2GHz-fr22 total intensity	HeLa-OGE-2GHz-fr23 total intensity	%AA Coverage	Distinct Peptides (#)	Distinct Summed MS/MS Search Score	Group #	Protein Name
8.67e+005	4.50e+007	2.48e+007	0.00e+000	0.00e+000	3.33e+006	1.53e+007	2.35e+007	1.45e+007	85	57	1053.75	1.1	5.X (2033) Gene_Symbol=ENO1 Isoform alpha
2.70e+006	5.61e+005	0.00e+000	0.00e+000	0.00e+000	0.00e+000	3.95e+005	1.47e+006	1.18e+006	36	60	883.99	2.1	Gene_Symbol=FLNA Filamin-A
7.96e+004	9.04e+005	1.11e+006	0.00e+000	0.00e+000	9.05e+004	7.24e+004	1.39e+006	1.35e+006	31	58	802.67	3.1	Gene_Symbol=FLNB Isoform 1 of Filamin-B
5.70e+007	1.66e+007	3.25e+006	0.00e+000	0.00e+000	1.16e+006	6.18e+006	5.07e+006	9.94e+006	84	44	793.02	4.1	Gene_Symbol=PGK1 Phosphoglycerate kina
1.27e+007	1.33e+007	3.21e+006	2.04e+006	9.29e+006	1.66e+007	6.81e+006	2.04e+006	3.76e+005	62	45	754.27	5.1 (2297)	6.X (4610) Gene_Symbol=HSPA1B,HSPA1A h
0.00e+000	3.66e+005	3.45e+006	0.00e+000	0.00e+000	0.00e+000	3.39e+004	3.80e+005	5.03e+005	27	45	666.73	6.1	Gene_Symbol=AHNAK 313 kDa protein
4.11e+006	5.86e+006	4.23e+005	0.00e+000	0.00e+000	0.00e+000	2.92e+005	3.26e+006	1.15e+007	74	37	653.63	7.1	2.X (2022) Gene_Symbol=ACTG1 Actin, cytopl
7.92e+006	2.52e+006	1.51e+006	3.35e+006	6.19e+006	3.93e+006	1.09e+006	4.42e+006	7.52e+006	66	35	601.31	8.1	2.X Gene_Symbol=ALDOA 45 kDa protein
8.85e+006	2.56e+006	0.00e+000	0.00e+000	0.00e+000	2.04e+005	3.13e+006	1.38e+007	1.37e+006	74	28	583.17	9.1	Gene_Symbol=TPI1 Triosephosphate isome
0.00e+000	0.00e+000	3.27e+006	0.00e+000	0.00e+000	0.00e+000	1.78e+005	7.62e+005	1.45e+006	45	29	501.70	10.1	Gene_Symbol=HSPD1 61 kDa protein
1.57e+005	0.00e+000	0.00e+000	0.00e+000	5.46e+006	1.51e+007	1.33e+007	2.53e+006	3.10e+006	47	27	500.29	11.1	Gene_Symbol=PHGDH D-3-phosphoglycera
7.39e+005	1.26e+005	0.00e+000	9.53e+005	8.54e+006	1.32e+007	1.16e+007	2.14e+007	1.64e+007	61	30	477.40	12.1	3.X Gene_Symbol=LDHA Isoform 1 of L-lactat
0.00e+000	0.00e+000	0.00e+000	0.00e+000	2.63e+005	1.09e+006	1.42e+006	1.13e+006	1.70e+006	39	32	472.75	13.1	Gene_Symbol=UBE1 Ubiquitin-activating enz
4.28e+006	0.00e+000	0.00e+000	0.00e+000	0.00e+000	0.00e+000	8.57e+005	1.26e+006	1.02e+006	63	30	479.33		Gene_Symbol=PDHA1 Protein disulfide isom

Spectrum Mill for MassHunter Workstation accurately determines not only protein identities but also relative abundances of a given protein in multiple samples. Color coding makes relative abundances apparent at a glance.

## Agilent GeneSpring

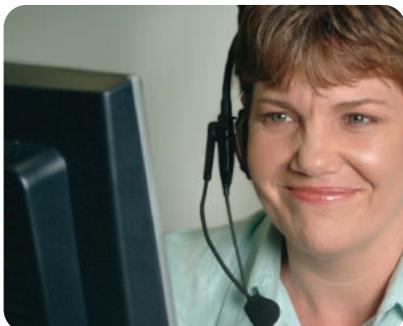
### The Gold Standard for Desktop Expression Analysis

GeneSpring provides powerful, accessible statistical tools for fast visualization and analysis of gene expression data. Regarded as the gold standard in desktop expression analysis, GeneSpring allows you to quickly and reliably identify targets of interest that are both statistically and biologically meaningful.



The GeneSpring user interface showing flexibility available for calculating and displaying analytical results.

- Identify differentially expressed microRNAs and use TargetScan information to identify their gene targets, analyze real-time PCR data, and build relevant biological interaction networks from a database of gene product interactions provided in GeneSpring; Detect significant differences in alternative splicing events.
- Guided workflows step you through a typical analysis with limited decision points while advanced workflows allow expert users to access all GeneSpring tools and define parameters and cut-offs for each analysis.
- GeneSpring provides a suite of statistical tools including paired and unpaired t-tests, 1-way and multi-way ANOVA, Repeated Measures ANOVA, and the permutative method of p-value calculation.



## Agilent Professional Services for Software and Informatics

### Maximize Your Investments in Agilent Technology

Agilent Professional Services enables you to focus on day-to-day operations through process and productivity enhancements to drive business results using consulting, support and education services.

### Consulting Services

- **Application Consulting** – Identification of customer objectives and goals; Strategic recommendations for complementing people, process and technology components
- **Software Enablement and Integration** – New and existing product installation/upgrade, configuration, testing and optimization
- **Workflow Design** – Create tailored processes and procedures leveraging industry best practices
- **Validation and Compliance** – Streamlined qualification services to ensure compliance with industry and regulatory standards
- **Custom Projects** – Special, customer-specific projects which fall outside the scope of the offerings described above; May include custom applications development, integration work or project management oversight

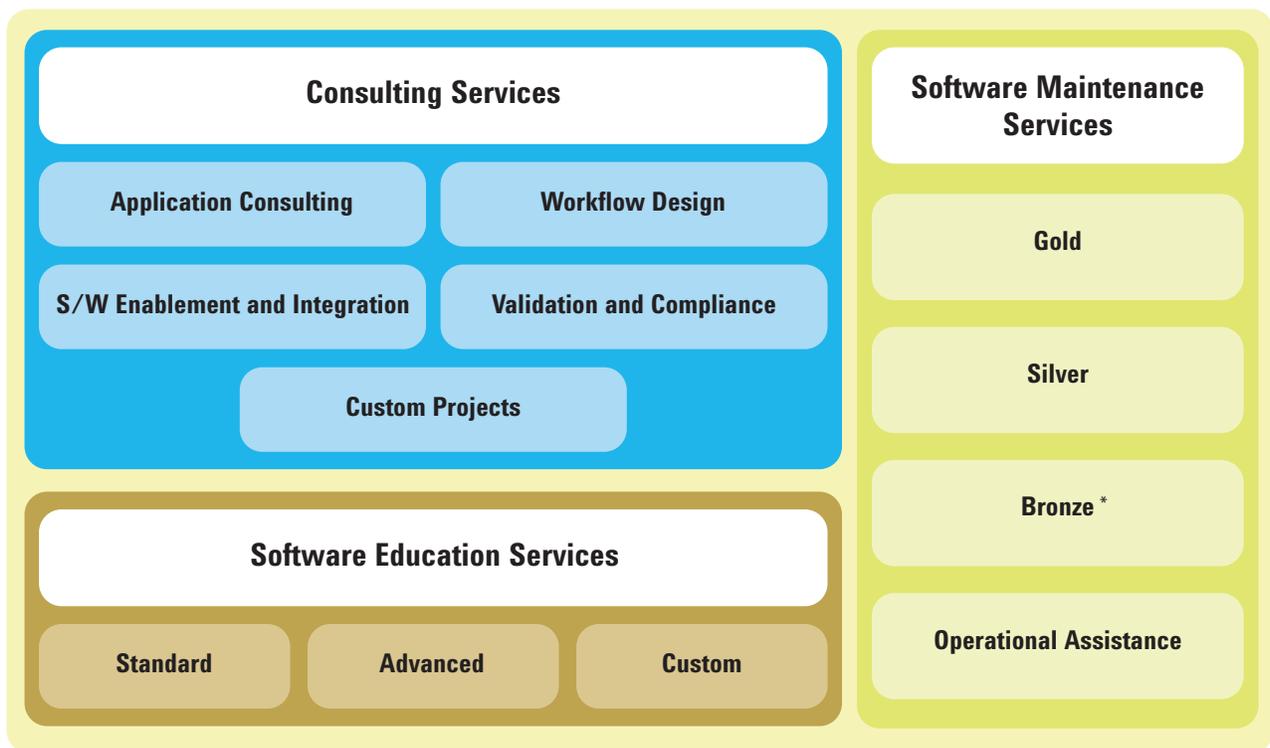
### Software Maintenance Services

- **Gold** – Dedicated, on-site Agilent support staff and enhanced service level agreements
- **Silver** – Reactive support including email and phone access to global technical support staff; Defined service level agreements and response times
- **Bronze\*** – User-driven support; Email support queries and response; User access to knowledge database and technical notes for self-diagnosis and repair
- **Operational Assistance** – Remote, consulting services offering

\*Limited availability based on location

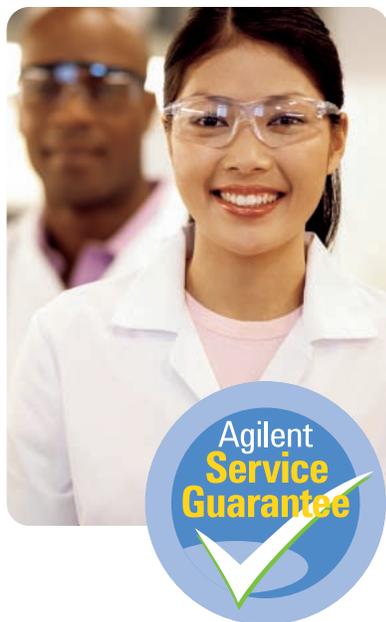
## Software Education Services

- **Standard** – Fixed curriculum, classroom-style technical, or user training delivered at Agilent locations worldwide
- **Advanced** – Advanced training on product usage and optimization, delivered at customer locations worldwide
- **Custom** – Tailored curriculum on specific customer applications and requirements



\*Limited availability based on location

For more information on Agilent Support and Services for Instrument Systems, see the following pages.



## Agilent Service and Support for Instrument Systems

### Focus on what you do best

For 40 years, Agilent has been building and maintaining the instruments you count on to stay competitive and successful. Trust us to protect your investment with a broad portfolio of services, backed by a global network of experienced service professionals dedicated to the productivity of your lab.

## Agilent Advantage Service Plans

### The best service available for your Agilent instruments

Agilent offers a flexible range of service plans so that you can choose the level of coverage that is best for your lab.

- **Agilent Advantage Gold** – Priority-one coverage for ultimate uptime and productivity
- **Agilent Advantage Silver** – Comprehensive coverage for dependable laboratory operations
- **Agilent Advantage Bronze** – Total repair coverage at a fixed annual price
- **Agilent Repair Service** – Basic coverage for reliable instrument repair

Agilent Advantage service plans include Agilent Remote Advisor for real-time remote monitoring and diagnostics. Through secure internet connections, you can interact with Agilent service professionals, receive detailed asset reports, and configure text or email alerts to notify you before problems occur – helping you to maximize instrument uptime and optimize laboratory workflows

## Get the Agilent Service Guarantee

Should your instrument require service while covered by an Agilent service agreement, we guarantee repair or we will replace your instrument for free.

No other company offers this level of commitment to keep your lab up and running at peak efficiency.



Laboratory decision makers and users ranked Agilent as their first choice for general laboratory compliance services.



## 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 the system toward an upgraded model. Not only does Agilent ensure a reliable purchase now, but we also ensure that your investment is just as valuable in the future.

## Agilent Compliance Services

### Equipment qualification that meets the most stringent requirements

Enterprise Edition Compliance was developed to streamline compliance across your entire lab. Used globally in regulated labs, including standards organizations and regulatory agencies, you'll understand why Agilent is ranked #1 in compliance when you experience how Enterprise Edition enables you to:

- **Improve qualification efficiency** by automating protocols across platforms to ensure greater efficiency and minimize regulatory risk
- **Standardize your entire compliance operation** with robust test designs that work with all your instruments
- **Add, remove or reconfigure tests** based upon your unique user requirements
- **Significantly reduce staff review time** with consistently formatted, computer generated, tamper-proof reports

## Agilent Education and Consulting Services

### Our best minds, working for you

Make the most of your instrument with training and consulting from the same experts who designed the instruments, software and processes you use every day.

- **Classroom and on-site training** in instrument operation, troubleshooting and maintenance
- **Customized consulting services** to meet your lab's unique needs

For more detailed information, please go to [www.agilent.com/chem/services](http://www.agilent.com/chem/services) or contact your local Agilent Services and Support representative.



## Agilent Columns and Supplies

Get the best possible performance from your Agilent instruments with Agilent columns and supplies

Using Agilent columns and supplies enhances the sensitivity and performance you get from your instruments. Agilent tightly controls the specifications for every column and supply it sells. In many cases, Agilent adds several manufacturing steps beyond the "standard" processes that others might use, so that the product is optimized to the exacting standards that your work demands. This adds up to less worry, less rework and more productivity for your lab.

## Sample Preparation



### SampliQ High-Performance Solid Phase Extraction (SPE)

Impurities in samples can contaminate results. Agilent SampliQ SPE will help you confidently extract and concentrate samples from complex matrices – so all your analyses are more accurate and reliable. SampliQ sorbents and cartridges are made with the same exacting quality you've come to expect from Agilent instruments and columns. Now you can get that superior performance at the very beginning of your analysis. SampliQ SPE products:

- Offer Polymer, silica and other sorbents to meet every SPE requirement
- Help ensure reproducible results
- Provide cleaner, concentrated samples

Visit [www.agilent.com/chem/SampliQ](http://www.agilent.com/chem/SampliQ) for more information, part numbers and application notes.

## Certified Vials, Caps and Septa



Agilent optimizes the design of our vials and caps to work perfectly with our instruments. We stipulate well-defined specifications and tolerances and perform QA procedures to ensure we are certifying the right parameters. The septa in our vials are chromatographically tested to reduce any risk of contamination.

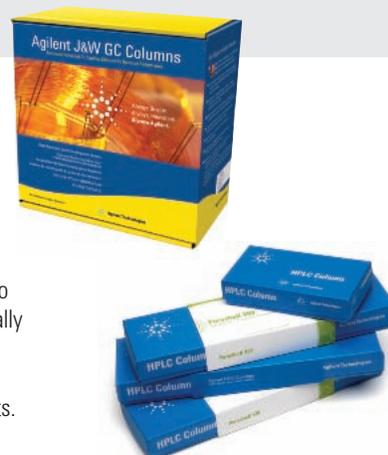
Agilent also offers other certified supplies, including MS liners, lamps, UV-Vis cells, and syringe filters.

## Columns

Agilent columns are designed and manufactured to offer excellent and reproducible performance.

### Agilent J&W GC Columns

As the world's leading provider of GC capillary columns, Agilent is uniquely positioned to offer you superior quality and unmatched service and support. Every column is individually tested to meet the tightest quality control specifications in the industry. We have the widest range of GC/MS and Ultra Inert stationary phases proven to deliver consistent column inertness and exceptionally low column bleed with high upper temperature limits.



### Agilent ZORBAX HPLC Columns

Whether you are performing conventional or ultra-fast chromatography, separating biomolecules, or analyzing complex compounds, there is a ZORBAX HPLC column that offers an optimized solution for your specific measurement and purification application. Agilent's ZORBAX columns are optimized for high-throughput analysis with the widest range of Rapid Resolution HT (1.8  $\mu\text{m}$ ) and Rapid Resolution (3.5  $\mu\text{m}$ ) columns. There are choices ideal for proteomics separations, or for scaling up to purify compounds, as well as over 800 choices for analytical applications.



For more information about Agilent's comprehensive offering of columns and supplies, order the *2009-2010 Essential Chromatography and Spectroscopy Catalog*, publication number 5989-9611EN. Visit [www.agilent.com/chem/reserve](http://www.agilent.com/chem/reserve) to request your free copy.



# Agilent e-Seminars

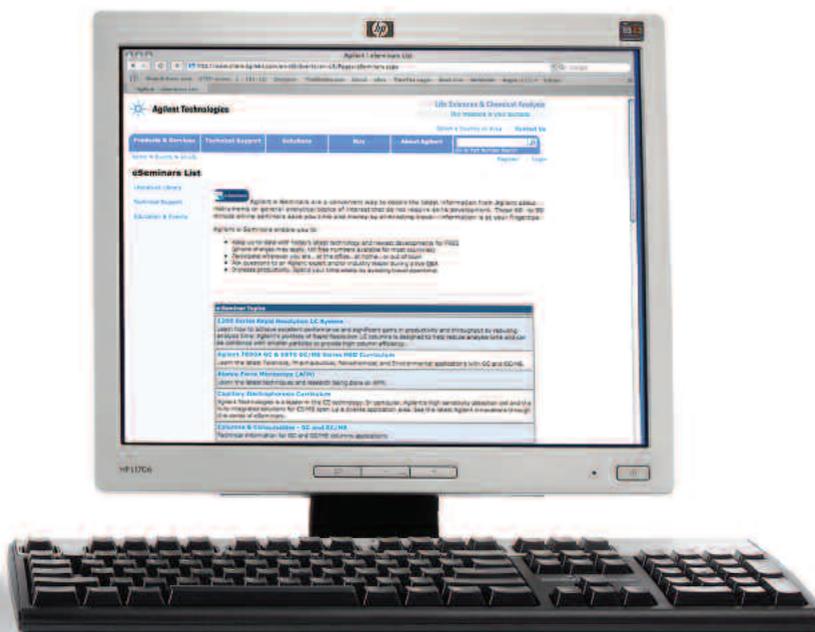
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are just a click away with **free e-Seminars from Agilent**

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