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# Liquid Chromatography Systems

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Agilent 1290 Infinity II LC Systems

# The future of UHPLC



**The Agilent 1290 Infinity II LC System** is part of the InfinityLab LC series. High separation and detection performance deliver analysis data of the highest quality. Highest sample capacity and fastest injection cycles combine with new levels of usability—for highest throughput for any application. Seamless integration in current infrastructure and smooth method transfer from legacy equipment—for non-disruptive transition to highest productivity and lowest cost of ownership.

## Features

- More chromatographic resolution
- Higher peak capacity for challenging separations – switch easily between single dimension UHPLC and the ultimate chromatographic power of 2D-LC.
- Lower carryover for uncompromised data quality
- Faster injection cycles with dual-needle injection and smart overlapped injections offer higher sample throughput
- Higher sample capacity per bench space – up to 6144 samples within the footprint of a standard Agilent stack
- Lowest detection limits with an ultra-wide dynamic range
- Significantly better usability - dead-volume-free UHPLC fluidic connections can be easily achieved by the revolutionary A-line quick-connect fittings.
- Flexibility for all applications – due to the wide power, temperature and automatically scalable injection range, gradient options and intelligent system emulation technology
- Seamless transfer of methods between LCs, regardless of the brand



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Agilent 1260 Infinity II LC Systems

# The performance, reliability and robustness you deserve

Let the **Agilent 1260 Infinity II LC** take you to the next level of analytical, instrument and laboratory efficiency with the performance, reliability and robustness you deserve, for highest confidence in your daily results. Reliable instrumentation combines with latest column technologies and advanced supplies to guarantee robust separation and detection performance. Easy column handling and superior sample logistics, from sample submission to data analysis, ensure fast turnaround times and highest instrument utilization. Seamless method transfer and stepwise upgrade paths facilitate risk-free integration in current infrastructure, for non-disruptive transition to highest performance within the confines of your budget.

## Features

- Compatible with conventional and ultrahigh performance LC
- Ultralow carryover - less than 10 ppm
- Cycle times to be reduced to mere seconds, virtually eliminating conventional wait times – whether for large volume loadings or flushing procedures
- Efficient sample handling and logistics
- Efficient column handling and temperature control
- Fast and easy connections to save time and trouble
- Lower detection limits and higher data quality for more confidence



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Agilent 1220 Infinity II LC Systems

# Simple and affordable UHPLC



**Agilent 1220 Infinity II LC** is an affordable, high quality, integrated LC system based on proven technology. As part of the Agilent InfinityLab LC Series, the 1220 Infinity II LC gives you quality and performance. Choose from four integrated, “all-in-one” configurations and various upgrade paths allow you to increase instrument efficiency. The walk-up upgrade and software convert the 1220 Infinity II LC into the perfect LC workhorse for a multi-user environment.

## Features

- Exceptional accuracy and superior precision for all routine applications
- Flexibility - hardware choices and all-in-one configurations include an isocratic or gradient pump, manual injector or vial autosampler, column oven and variable wavelength detector
- Upgrade system with additional hardware modules
- Fully compliant with all requirements for regulatory LC applications
- Fast, trouble-free startup - every system is tested in its final configuration
- Mobile upgrade allows installation in a mobile lab
- Higher resolution and faster run times
- Lower detection limits using a variable wavelength detector up to 80 Hz
- Maintain stable temperatures with the optional column oven



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# Gas Chromatography Systems

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Agilent Intuvo 9000 GC

# Transform the way you perform gas chromatography

The new **Agilent Intuvo 9000 GC** system transforms the way users perform GC, opening new paths to higher productivity and better business outcomes. Building on Agilent's legacy of robustness and performance, Intuvo introduces key enabling technologies that lift existing operational limitations, delivering simplified operation, reduced operating costs, and increased instrument up-time.

## Features

- Ferrule-free, click-and-run connections
- Guard Chips protect downstream components from contamination
- Direct heating and unique planar column design delivers exceptional heating performance
- Smart ID Keys attached to critical flow path components provide information such as configuration and column age
- Intelligent troubleshooting routines diagnoses problems in the system and provide a step-by-step solution guide
- The perfect GC for use with 5977B, 7000D, and 7010B mass spectrometer systems
- OpenLAB CDS and MassHunter software
- Compatible with the complete range of autoinjectors, including 7693A and 7650A for liquid injections, and 7697A for dedicated headspace analyses



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Agilent 7890B GC

# Proven reliability and industry leading performance

**Agilent 7890B GC** with Integrated Intelligence offers advanced features designed to help you get more done in less time. Its high-quality design and reliability mean the system will maintain a high-level of performance for years to come. Dramatically reduce the amount of helium used or eliminate it from your laboratory. Enjoy software and other features designed to deliver simplicity and enhanced analytical capability.

## Features

- Carrier gas options to reduce the amount of helium used
- Capillary Flow Technology provides better chromatographic separations and decrease sample preparation
- Retention Time Locking maintains retention times across injections, over time, and between instruments
- Low Thermal Mass modules reduce inject-to-inject time with rapid column heating and cooling
- Large Valve Oven allows for the combination of multiple methods and simplified maintenance
- Multimode inlet serves as a programmable temperature vaporizing injector with multiple capabilities
- Inert FlowPath helps you achieve better sensitivity, from injection to detection



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Agilent 7820A GC

# Simplified operation for routine analysis

**Agilent 7820A GC** provides simplified operation with the proven reliability. This affordable, high-quality GC system is ideal for small to medium-sized labs that perform routine analyses using standard GC methods. The 7820A was designed to maximize uptime, minimize maintenance and complexity, providing a quick return on your investment.

## Features

- Full electronic pneumatics control is available for all inlets and detectors, ensuring excellent reproducibility, reliable accuracy and precision
- Easy to learn and use software
- Simplified GC front panel keys and display provide sequence information, instrument conditions, and run status, and minimize operating errors
- Optimized performance for everyday productivity and for all routine applications,
- Choice of standard high precision inlets
- Choice of high-sensitivity detectors for every sample type
- Complementary software keyboard and display allows the user to control the system when it connects with an integrator or 3rd-party software
- Ideal for food, environmental, forensic, materials, energy and chemical applications



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# Ion Chromatography Systems

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Metrohm Ion Chromatography Solutions

# Robust and easy to use for routine analysis

The **930 Compact IC Flex** is a versatile ion chromatograph developed with a focus on the requirements of routine users. It is robust and very easy to use. Hence, contract laboratories and quality control laboratories from all sectors with clearly defined analytical requirements will find the 930 Compact IC Flex their solution of choice.

## Features

- Superior sensitivity for the analysis of anions, cations, and polar substances
- Small footprint
- Any kind of suppression, detection, and column can be used
- Straightforward automation for high sample throughput
- Metrohm Inline Sample Preparation for challenging matrices

The Metrohm logo consists of a teal-colored stylized symbol resembling a lowercase 'm' or a similar shape, followed by the word 'Metrohm' in a bold, black, sans-serif font.

Metrohm Ion Chromatography Solutions

# For modularity and high performance

The new **940 Professional IC Vario** meets your requirements while keeping you perfectly flexible. Based on one and the same system, you can configure any IC system you want or need – just like a modular kit. All solutions – including standards – are produced fully automatically, if desired. Starting with sample injection, the system works completely autonomously. Moreover, it is self-monitoring: All system and method parameters are permanently checked.

## Features

- Use any kind of column, gradient, liquid handling, suppression, or detection – there are no limits to system configuration
- Multi-channel analysis possible (two, three, or more channels)
- Can be combined with any of the Metrohm Inline Sample Preparation techniques
- Straightforward automation for high sample throughput
- Intelligent injection techniques

The Metrohm logo consists of a teal-colored stylized symbol resembling a lowercase 'm' or a similar shape, followed by the word 'Metrohm' in a bold, black, sans-serif font.

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Agilent 5977B Single Quadrupole GC/MSD

# Work smarter with integrated GC, MS, and software technologies



**Agilent 5977B High Efficiency Source (HES) Gas Chromatograph/Mass Selective Detector (GC/MSD)** builds on a tradition of providing the most trusted single-quadrupole GC/MS system. The ultra-efficient EI source maximizes the number of ions that are created and transferred out of the source body and into the quadrupole analyzer. This novel design revolutionizes single quadrupole mass spectrometry performance.

## Features

- Revolutionary High Efficiency Source (HES) offers the industry's lowest Instrument Detection Limit (IDL) and best S/N
- Up to 10x increase in MS signal brings the future into today's single quadrupole laboratory
- Leverage increased MS sensitivity to reduce sample size and lower operating costs for transportation, storage, preparation, and waste disposal
- Industry-leading robustness and reliability ensure years of successful lab productivity
- The power and flexibility of both MassHunter Quantitative and Qualitative Analysis and Classic MSD ChemStation
- Enhanced communication between the GC and MSD for more efficient and safer operation
- Eco-friendly features save time and money



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Agilent 7000D Triple Quadrupole GC/MS

# Expand your lab with a proven platform

**Agilent 7000D Triple Quadrupole GC/MS** is easier to use and more efficient than ever, due to its new Dynamic MRM (dMRM) mode of acquisition. If your lab includes Agilent 5975 or 5977 GC/MSD systems, you'll be able to load your GC/MSD SIM and scan methods on the 7000D to balance your workload across all available instruments. The 7000D MS works with the 7890B GC to enhance productivity, save resources and alert operators about pending maintenance.

## Features

- Create and edit acquisition methods easily with dMRM Acquisition Mode
- Single Quad Method Compatibility lets you load and execute GC/MSD methods, increasing your lab's capacity to handle samples requiring SIM or scan acquisition.
- High sensitivity EI Extractor Ion Source delivers confident trace analysis even in complex matrices with an IDL less than 4fg OFN
- MassHunter acquisition, data handling and reporting
- Reduce common contaminants, neutral noise, and cool down time
- Maximize uptime and planned maintenance with Integrated GC/MS system features and Early Maintenance Feedback
- Automated and vent-free with patented JetClean option
- Advanced features: Inert Flow Path, Capillary Flow Technology, and the Programmable Helium Conservation Module



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Agilent 7010B Triple Quadrupole GC/MS

# For the level of sensitivity you need

**Agilent 7010B Triple Quadrupole GC/MS** is the latest version of the first compact benchtop Triple quad (MS/MS) system to provide attogram detection limits in Electron Ionization (EI) mode. The 7010B is now even easier to use and more efficient than ever, due to its new Dynamic MRM (dMRM) mode of acquisition. If your lab includes Agilent 5975 or 5977 GC/MSD systems, you'll be able to load your GC/MSD SIM and scan methods on the 7010B to balance your workload across all available instruments.

## Features

- Single Quad Method Compatibility lets you load and execute GC/MSD methods, increasing your lab's capacity to handle samples requiring SIM or scan acquisition.
- High sensitivity EI Extractor Ion Source delivers confident trace analysis even in complex matrices with an IDL less than 4fg OFN
- MassHunter acquisition, data handling and reporting
- Enhance mass spec performance by reducing common contaminants, neutral noise and cool down time
- Maximize uptime and planned maintenance with Integrated GC/MS system features and Early Maintenance Feedback
- Automated and vent-free with patented JetClean option
- Advanced features include: Inert Flow Path, Capillary Flow Technology, and the Programmable Helium Conservation Module



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Agilent 7200B GC/Q-TOF

# Delivers full spectrum, high resolution data

The **Agilent 7200B Quadrupole Time-of-Flight GC/MS** system delivers full-spectrum, high-resolution, accurate-mass data for screening, profiling, and identifying GC-amenable compounds, using electron ionization and PCI/NCI modes. The 7200B Series GC/Q-TOF system expands on the proven separation power of the Agilent 7890B GC and now includes a backflush-ready configuration with every system.

## Features

- Reduce false positives with high-resolution, accurate-mass data
- Ensure excellent data quality even for narrow chromatographic peaks in high-throughput workflows with data acquisition rates up to 50 spectra/second
- Identify compounds with library-quality spectra for high match scores
- Assign chemical formulae to unknown compounds and fragments using MassHunter software
- Detect and identify trace-level target compounds in the presence of more abundant matrix compounds with a wide in-spectrum dynamic range
- Separate target compounds from background interferences with high-resolution data
- Perform untargeted screening with the selectivity of fragment data using Agilent's All Ions technique for GC/Q-TOF
- Elucidate chemical structures with MS/MS capabilities to reveal greater detail
- Perform easy and fast ion source swapping for routine maintenance or ionization mode changes while maintaining vacuum with Agilent's removable ion source
- Leverage a broad range of options and capabilities of the world's best GC



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# GC/MS Sample Prep & Introduction

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## Agilent 7696A Sample Prep Workbench

# Automates tedious and error-prone steps

**Agilent 7696A Sample Prep WorkBench** automates tedious and error-prone steps in sample preparation. It is suitable for most HPLC, GC, LC/MS and GC/MS applications, such as dilutions, internal standard additions, and derivatization. WorkBench with WeighStation provides the ability to weigh precise amounts of material directly into the GC or LC vial, allowing for weight calculations required for specific ASTM and EN methods.

### Features

- Cost savings on solvents, glassware and time
- Eliminates manual sample prep variability from analyst to analyst
- Placement in fume hood for safe working environment
- Intuitive Easy SamplePrep software with graphical interface simplified operation
- Performs dilution, aliquoting, reconstitution, small volume liquid/liquid extraction
- Off-line batch sample preparation for both LC and GC methods
- Optional WeighStation provides high precision weighing of dispensed volumes
- Bar code reading capability makes it ideal for regulated environments
- 150 2 mL vial capacity
- Liquid handling towers ensure precise, reproducible, dispensing and transfer
- Eliminate variability in dilution, extraction, standards addition, and other key steps





## Agilent 7693A Automatic Liquid Sampler

# Reliable, fast, and precise injections

**Agilent 7693A Automatic Liquid Sampler** provides reliable, fast, and precise injections for Agilent GC and GC/MS systems. With additional sample preparation capabilities, this autoinjector can enhance the output of the GC or GC/MS laboratory. Whether you have hundreds of samples to analyze, or just a few, the 7693A system gives you sample handling and injection capabilities that are best in class.

### Features

- 150 sample vial tray allows longer unattended operation
- Dual simultaneous injection saves time by doubling sample throughput
- Fast injection technology minimizes needle discrimination and enables use of external standards
- Holds 250- $\mu$ L and 500- $\mu$ L syringes for use in sample preparation
- Easily build and run GC sample preparation programs with Easy SamplePrep software
- Sample heater and mixer dramatically improves high molecular weight chromatographic results
- Eliminate introduction of manual error due to sample preparation, including dilution, internal standard addition, and derivatizations
- Heat the entire tray or cool it to sub-ambient temperatures to meet your lab's needs
- Modular design allows the flexibility to easily move the sampler from GC to GC or start with a single injector and upgrade as needed
- Priority sample capability - no need to stop the sequence to add next sample
- Barcode reader allows the system to perform specific actions on mismatch, ensuring chain of custody Agilent Barcode Printing Solution



Agilent 7650A Automatic Liquid Sampler

# Precise injections for up to 50 samples

**Agilent 7650A Automatic Liquid Sampler** provides reliable, fast, and precise injections for up to 50 samples on Agilent GC and GC/MS systems. Prepare to inject the next sample in the sequence before the GC goes ready; decreasing inject to inject time. Add samples, eliminating the need to stop the sequence when important samples arrive in the lab. Offers a large volume injection capability - inject up to 250  $\mu$ L for flexible liquid injections.

## Features

- Holds up to 50 samples
- Up to 3 layers in a sandwich injection mode
- Self-alignment for inlet and sample position
- Illuminated syringe carriage for easy viewing, troubleshooting and method development
- Fast injection technology minimizes needle discrimination and enables use of external standards
- Perform single-stroke and multi-stroke injections
- Holds up to 250- $\mu$ L and 500- $\mu$ l syringes for large volume injections
- Priority sample capability - no need to stop the sequence to add next most important sample
- Extend the useful life of the 6890N GC by upgrading aging autoinjectors to 7650A



## Agilent 7697A Headspace Sampler

# Unparalleled throughput in volatiles analysis

**Agilent 7697A Headspace Sampler** represents the state-of-the-art in headspace gas chromatography. Automatic leak check helps ensure each vial is leak-free prior to analysis, no loss of precision or sensitivity. Alternate carrier gas options allows you to safely work with hydrogen as a carrier gas to save laboratory cost. Add late arriving important samples to the sequence without stopping and restarting.

### Features

- Available in both 12 or 111 vial capacity configurations
- Exchangeable trays during a sequence for increased sample capacity
- Hydrogen carrier and auto Sleep/Wake modes conserve valuable laboratory resources
- Software control through Agilent OpenLAB CDS software and Agilent MassHunter software
- Independent control of vial pressurization and column head pressure provides increased precision by ensuring no back pressure during sample transfer
- Automatic vial leak test checks each vial during pressurization – without time consuming calibration - to ensure that every sample is properly capped
- Sample Bar Code Reader with data transfer capabilities allows you to track samples before they enter the oven
- Barometric pressure compensation provides increased precision regardless of laboratory pressure changes



Markes UNITY-xr Thermal Desorber

# Versatility and performance

**UNITY-xr™** is a versatile analytical thermal desorption instrument for GC and GC/MS. It offers analysis of trace-level volatile and semi-volatile organic compounds (VOCs and SVOCs) in air and materials. In contrast to other thermal desorption units, UNITY-xr quantitatively re-collects samples for re-analysis or storage, enhancing sample security. UNITY-xr also features an electrically cooled cold trap, dispensing with the expense and inconvenience of liquid cryogen.

## Features

- Quantitative sample re-collection of all the split flows enables repeat analysis of critical samples and easy method validation
- An inert, optimised flow path allows quantitative recovery of C2 to C44, including reactive and thermally labile species... from percent to sub-ppt concentrations
- As well analysing 3½" standard TD tubes, the UNITY-xr facilitates analysis of on-line, canister and bag samples through the modular addition of versatile accessories
- Rapid operation of the electrically-cooled focusing trap reduces costs and ensures fast sample throughput
- Method-compliance is aided by tube- and leak-testing, water management, and addition of internal standards
- Samples are easily tracked with barcoded tubes and RFID TubeTAGs
- Compatible with all major makes of GC and GC-MS

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Markes TD100-xr Thermal Desorber

# High throughput, automated thermal desorption system

**TD100-xr™** is a high-throughput, automated thermal desorption system for the rapid and unattended processing of up to 100 sample sorbent tubes in a single sequence. TD100-xr is perfect for high-throughput analytical laboratories needing to process large numbers of tube-based samples automatically. The TD100-xr quantitatively re-collects samples for re-analysis or storage, enhancing sample security. It also features an electrically cooled cold trap, eliminating the expense and inconvenience of liquid cryogen.

## Features

- Automated, cryogen-free, unattended operation for up to 100 sample tubes
- Confidence in results through quantitative sample re-collection of split flows
- Inert sample paths and extended temperatures allow quantitative recovery of C2 to C44, including reactive and thermally labile species... from percent to sub-ppt concentrations
- Method compliance aided by leak-testing, water management and addition of internal standard
- Enhanced traceability of samples using barcodes and RFID TubeTAGs
- Short, heated transfer line allows TD100-xr to be installed on all major makes of GC and GC-MS
- High-precision parts result in increased robustness

**MARKES**  
international





Markes CIA Advantage Automated Canister Analyzer

# Ultimate solution for canister air monitoring

**CIA Advantage** is an advanced system for automated analysis of VOCs in canister samples. With capacity for up to 27 canisters and cryogen-free operation, it is the ultimate solution for laboratories wanting a robust, high-throughput system for canister air monitoring. It offers flexibility and productivity enhancements for air-monitoring laboratories that cannot be obtained with other systems. CIA Advantage provides both excellent analytical performance and unmatched application versatility.

## Features

- Up to 27 channels allows round-the-clock automated operation
- Cryogen-free operation reduces running costs
- Operation is fully compliant with US EPA Methods TO-14 and TO-15
- High- and low-concentration samples can be run in the same sequence
- Splitless desorption for optimum sensitivity
- Compatible with both canister/bag analysis and method-compliant analysis of sorbent tubes
- Heated internal lines and efficient purging combine to eliminate carryover between samples
- Easily integrates into any laboratory – combines with any make of GC

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## Frontier EPA/PY-3030D Multi-Shot Pyrolyzer

# Rethink pyrolysis



The **EGA/PY-3030D** is a versatile pyrolyzer that offers temperature programmability from ambient (+10°C) to 1050°C with precise temperature control (+/- 0.1°C) of the ceramic micro furnace. This allows the user to analyze materials using a variety of techniques for greater flexibility. This system is capable of full automation of up to 48 samples with the AS-1020E Auto-Shot Sampler. Elegantly designed for qualitative and quantitative analysis with excellent accuracy and precision—guaranteed!

### Features

- Any organic materials can be analyzed using some or all of these techniques:
  - Evolved Gas Analysis (EGA)
  - Thermal Desorption (TD)
  - Heart-Cutting (HC)
  - Pyrolysis (PY)
  - Reactive Pyrolysis (RxPy)
  - Single, Double or Multi-Shot Analysis
- Accessories add even more capability
  - UV Irradiator (UV-1047E)
  - Micro Thermal Desorption Sampler (PY-1060)
  - Micro Reaction Sampler (PY-1050)
  - MicroJet Cryo-Trap (MJT-1035E)
- Two Year Warranty.
- F-Search software and four MS libraries provide essential tools for polymer and additive interpretation when using GC with MS detection.



## Frontier PY-3030S Single-Shot Pyrolyzer

# High performance and reliability

The **PY-3030S Single-Shot Pyrolyzer** is simple but effective for any type of isothermal sample introduction to GC or GC/MS from 40-800°C. The PY-3030S has precise temperature control, uses the same low dead volume, inert, and heated flow path as the EGA/PY-3030D, and can use a variety of analytical techniques. Often used in a Quality Control lab, the PY-3030S can be fully automated with the AS-1020E 48 sample Auto-Shot Sampler.

### Features

- Any organic materials can be analyzed using some or all of these techniques:
  - Isothermal Thermal Desorption (TD)
  - Single-Shot Pyrolysis (PY)
  - Reactive Pyrolysis (RxPy)
- Accessories add even more capability:
  - UV Irradiator (UV-1047E)
  - Micro Thermal Desorption Sampler (PY-1060)
  - Micro Reaction Sampler (PY-1050)
- F-Search software and three MS libraries provide essential tools for polymer and additive interpretation when using GC with MS detection.



## GERSTEL MultiPurpose Sampler (MPS)

# Improve productivity, ensure accuracy and reliability

**GERSTEL**

**GERSTEL MultiPurpose Sampler (MPS)** is a highly productive LC autosampler and sample preparation robot. In combination with the GERSTEL MAESTRO Software, the MPS provides more performance and higher productivity in sample preparation than any other commercially available LC/MS or LC autosampler. The MPS is compatible with all standard LC Systems.

### Features

- Complete automation of every step from sample preparation to GC/MS or LC/MS analysis
- Intelligent, multi-sample parallel processing of sample preparation and analysis
- Samples can be inserted into the running sequence for priority analysis
- Simple operation through integrated control of every step from sample prep to analysis
- All system parameters and deviations are logged for full traceability
- Immediate status reports by e-mail enable continued productivity
- User-defined real-time display of system parameters and sequence progress
- Multi-method sequences enable flexible operation and efficient method development
- Modular system: The MPS can be configured to perform multiple sample preparation techniques. Additional techniques are quickly added for easy adaptation to new analytical tasks
- Dual syringe system enables flexible automated sample preparation and introduction



## Tekmar AQUATek 100 Purge & Trap Autosampler

# Automated, compliant and reliable

**AQUATek 100** is a purge and trap autosampler that automates the sample preparation steps for the analysis of liquid samples utilizing a fixed volume sample loop filled using a pressurization gas. Two independent volume programmable internal standards are then added to the sample and the entire aliquot is transferred to the Purge and Trap for compound concentration and subsequent separation and detection using a GC/GC-MS quantification system.

### Features

- 30% more sample capacity with its 100-vial carousel for standard 40mL vials
- Auto blanking is now available without sacrificing sample positions on the carousel thus allowing utilization of every vial space on the carousel for samples
- Built in chilling feature
- Two - 15mL UV-protected standard spiking vessels to prevent compound breakdown. Capable of varying volume delivery in 1, 2, 5, 10, and 20µL aliquots with zero waste
- Unique slide out Plumbing Access Compartment (PAC) simplified tasks such as changing sample loops and other maintenance tasks.
- Interchangeable loop system available in 5mL, 10mL, 20mL, and 25mL sizes
- Automated diagnostics and leak check
- Entire liquid pathway can be rinsed using the patented high temperature OptiRinse cleaning techniques
- Pressurized water reservoir for blanking and system rinsing included



## Tekmar HT3 Static and Dynamic Headspace System

# Save time, money and bench space

**HT3 Static and Dynamic Headspace System** is an easy-to-use unit that can save you time, bench space and money. Built on proven static headspace technology, the HT3 provides increased sensitivity from 50 to 100 times with the Dynamic Headspace option (dependent on compound), accurate and precise results with electronically controlled flow and pressure, up to 300 °C temperature throughout the sample pathway and single scheduling for multiple methods and techniques

### Features

- Standard integrated 60-position autosampler with 10-position platen heater provides true walk away automation
- Increased sensitivity from 50 to 100 times with the dynamic headspace option (compound dependent)
- Removable sample path for trouble-free maintenance
- High temperature capability to 300 °C expands range of applications
- Inert sample pathway including transfer line, sample needle and loop provide superior analytical results by eliminating adsorption and reducing carryover
- Automated leak-check and benchmark for quick troubleshooting
- Automated method development using Method Optimization Mode
- 21 CFR Compliance
- Built-in Mass Flow Controller ensures consistent flow and pressure for all samples regardless of external conditions





## Tekmar Atomx Automated VOC Sample Prep System

# Automation and concentration in one system



**Atomx Automated VOC Sample Preparation** system combines an Autosampler and Purge and Trap into a single instrument for the analysis of VOCs in soils and waters. It employs a unique methanol extraction automation feature for high level soils in accordance with US EPA Method 5035. A proven carousel drive capable of holding 80-vials for optimal throughput therefore reducing downtime. While priced competitively, this system offers unique features that cannot be found on other sample prep systems on the market today.

### Features

- Single, compact platform system autosampler with built-in purge and trap for all water and soil matrices including drinking water and wastewater
- Capable of sampling low level and high level soil samples
- 80-position carousel design for optimal throughput
- Digital Mass Flow Controller (MFC) for independent mode flow control
- Chiller options available for EPA requirements
- Ability to vary sample volume in 1mL aliquots from 1-25mL
- Reduce carryover with Extractasol - dedicated methanol port for rinsing needle, sample lines, and glassware
- Water reservoir included with standard instrument package
- Three - 15mL UV-protected standard spiking vessels prevent possible compound break-down. Capable of varying volume delivery in 1, 2, 5, 10, and 20 $\mu$ L aliquots with zero waste
- Automated system leak check diagnostics
- CFR compliance tools available



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## Diablo 5000A Real Time Gas Analyzer

# Fast chemical analysis without compromise

**The Diablo 5000A Real-Time Gas Analyzer (RTGA)** is a real-time chemical measurement tool for continuous process improvement. It is ideal for applications where fast chemical analysis is required, such as monitoring process transients and dynamic continuous reactions. The 5000A RTGA can be used for fuel cell gas analysis, syngas monitoring, catalyst research, monitoring of volatile solvent residues, pharmaceutical reactor headspace monitoring, and many other applications.

### Features

- Fast, real-time response to process changes
- Flexible, rugged, fast-responding direct process sampling interface
- Uses a high-performance Agilent Technologies 5975 or 5977 quadrupole mass spectrometer (5975C or 5977A MSD)
- Quick and easy conversion of 5975/5977 MSD from the direct RTGA-MS configuration to standard GC-MS configuration
- Linear response and stable, reliable quantitative analysis with active compensation for changes in process pressure
- Hardware and software enhancements enable detection of low-mass species like hydrogen with the 5975/5977 MSD



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# LC/MS Systems

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Agilent 6100B Single Quadrupole LC/MS

# Outstanding performance, consistent, proven reliability

**Agilent 6100B Single Quadrupole LC/MS Systems** deliver outstanding performance, proven reliability, and consistent results. When combined with Agilent's 1220, 1260 and 1290 Infinity II Series LC systems, the instruments can provide best in class sensitivity. The powerful Agilent 6100 LC/MS systems deliver great value and productivity for both research and routine applications.

## Features

- Unmatched sensitivity simplifies sample preparation and LC method development
- Agilent Jet Stream available for the 6130 and 6150 LC/MS instruments enables sub-picogram detection limits
- Ultrafast scan speeds on all models lets you take full advantage of UHPLC separations
- Isotopic resolution at 10,000 u/sec confirms compound identity in fast chromatography with accurate isotopic ratios
- Integrated Control further enables Agilent's analytical and preparative LC systems including mass-based fraction collection
- Additional Detectors provide versatility by combining DAD, ELSA, and MS for extra confidence in compound purity assessment
- Walkup Software facilitates easy-to-manage, open access operation by multiple users



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Agilent 6230B Accurate-Mass Time-of-Flight (TOF) LC/MS

# Exceptional MS performance without compromises

**Agilent 6230B TOF LC/MS** system provides accurate mass analyses for a variety of analytical applications including profiling, identification, characterization, and quantification of both small and large molecules. Together with advanced accurate mass software processing tools the 6230B supports applications including drug development, toxicology, and the analysis of recombinant proteins. The system supports MS/MS applications by using fragments formed in the desolvation region of the ion source.

## Features

- Reduce false positives with better than 1 ppm mass accuracy
- Acquire data at 30 spectra per second to ensure excellent data quality for fast UHPLC peaks in high-throughput workflows
- Confidently identify small molecules based on accurate mass and isotopic abundance and chemical composition using Find by Formula in MassHunter software.
- Separate target compounds from interferences with mass resolution of greater than 22,000
- Find impurities at extremely low concentrations – Agilent Jet Stream technology provides low picogram on-column sensitivity
- Identify trace level target compounds – in the presence of more abundant matrix compound – with up to 5 orders of in spectrum dynamic range
- Intuitive “walk-up” software makes the 6230B an ideal analytical tool for medicinal and synthetic chemists as well as biologists
- New All Ions MS/MS Technique for Targeted and Untargeted Screening on TOF and Q-TOF LC/MS



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Agilent 6400 Triple Quadrupole LC/MS

# Renowned reliability, overall system robustness



Meet your quantitative needs with triple quadrupole performance that gives you superior sensitivity, renowned reliability, and overall system robustness. **Agilent 6400 Series Triple Quadrupole LC/MS Systems** are proven choices for quantitative applications in pharmaceutical ADME/DMPK studies, biomarker validation, clinical research, food testing, forensics, toxicology, and environmental analyses.

Choose an Agilent 6420, 6460, 6470 or 6495 Triple Quadrupole LC/MS system for unmatched productivity, performance, and value for all your analytical needs.

## Available Models

- Agilent 6420 is an economical and easy to use instrument for laboratories requiring routine and standard quantitative capabilities
- Agilent 6460 adds proven Agilent Jet Stream technology to dramatically increase sensitivity and reliability for trace level analysis and a wide range of challenging applications
- Agilent 6470 incorporates enhanced ion optics and detector design to deliver attogram-level sensitivity and support high-throughput labs with ultrafast analyses, 24/7 reliable operation, and highest productivity
- Agilent 6495 delivers the lowest attogram-zeptomole limits of detection and quantitation over the widest linear dynamic range for your most demanding applications



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Agilent 6500 Accurate Mass Quad Time-of-Flight (Q-TOF) LC/MS

# Get the most information from your samples

Whether you need to identify, screen, profile, or perform quantitation on complex samples, **Agilent 6500 Q-TOF LC/MS** is ready. When simultaneous speed, sensitivity, accuracy, and dynamic range come together, you get the most information from your samples. The immense detail revealed is harnessed by MassHunter software to provide answers you can trust. Find out how an Agilent Q-TOF can help solve metabolomics, pharmaceutical research, discovery proteomics, food safety, forensics, toxicology, and environmental screening challenges.

Choose an Agilent 6530, 6545, 6550 or 6560 Q-TOF LC/MS for unmatched productivity, performance, and value for all your analytical needs.

## Available Models

- Agilent 6530 Q-TOF LC/MS - Get the full power of high resolution accurate mass MS/MS detail in an instrument ready for research or routine applications
- Agilent 6545 Q-TOF LC/MS - Expert level performance in an instrument designed for intensive daily use
- Agilent 6550 iFunnel Q-TOF LC/MS – Achieve femtogram-level sensitivity – iFunnel increases ion transfer to achieve the lowest detection levels of any high resolution LC/MS instrument
- Agilent 6560 Ion Mobility Q-TOF LC/MS – Reveal greater detail with unmatched ion mobility performance for an added dimension of separation



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Microsaic MiD 4000

# Bringing mass spec down to size

The **4000 MiD** is the only mass spectrometer to contain everything in one box, including PC and all pumps. The core technologies are chip-scale, 'plug and play' versions of traditional mass spectrometry components which can be interchanged rapidly by the user. It's easy integration, low operating cost and small footprint make the 4000 MiD deployable in a wide range of applications where mass spectrometry has not been able to reach – until now.

## Features

- Far smaller than conventional mass spectrometers, with fewer infrastructure requirements
- No external floor pumps are required, making it ideal for use in a fume-hood and easily deployable in a wide range of applications
- Designed to integrate with existing equipment with no extra footprint
- Fully integrated MS system with chip-scale technologies
- Triggered MRM (tMRM) combines fast and sensitive MRM quantitation with the generation of a product ion spectrum for library searching and compound screening and confirmation
- Microspray ionization source
- Micro-engineered vacuum interface
- 'Plug and play' chips make the 4000 MiD configurable, flexible and future proof
- Intuitive, open-access software for method development and LC-MS
- Big savings on costly infrastructure such as gas generators air-con and UPS
- Remote control via LAN connection removes the need for a monitor or keyboard, further minimizing footprint: ideal for fume-hood deployment



Microsaic Systems



**MiDas coupled with the Microsaic 4000 MiD mass detector** gives the bench chemist the benefits of analytical chemistry where it's needed.

The MiDas is an integrated interface module and software package allowing automated sampling, dilution and injection for direct MS analysis at your lab bench or fume hood. Applications range from analyzing the compositions of unknown liquids in a beaker to reaction monitoring from a batch, flow reactor to semi-prep LC.

# LC/MS Sample Prep & Introduction

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## Microlab NIMBUS Personal Pipetting Workstation

# Superior performance at an affordable price

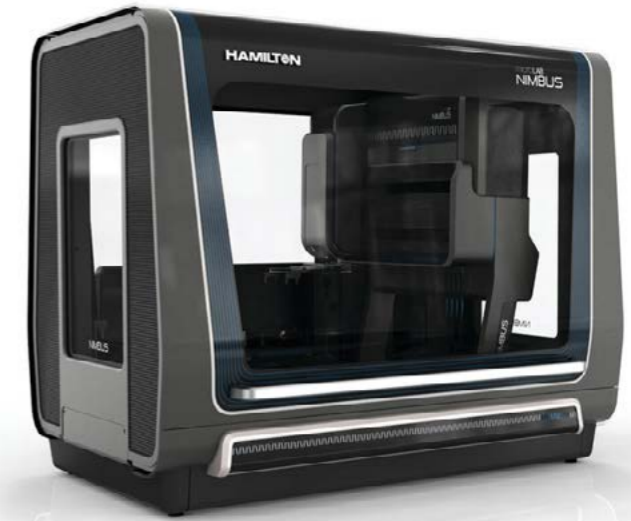
The Microlab NIMBUS workstation from Hamilton is a compact, multi-channel automated liquid handler that offers speed, flexibility, ease of use and superior pipetting performance - at an affordable price.

In contrast to large, multi-integrated, high-end systems designed for automating complex workflows, the NIMBUS is a small-footprint, lean-integrated, entry-level pipettor ideally suited for automating a single or select set of liquid handling routines. A flexible deck layout and a broad range of modular accessories and options makes reconfiguration for new applications quick and easy.

### Features

- Proprietary Compressed O-Ring Expansion (CORE) technology attaches disposable tips using lock-and-key style mechanism, enabling a positional precision of + 0.1mm on all axes
- Air Displacement Pipetting reduces risk of contamination, and delivers high accuracy and precision
- Anti-Droplet Control compensates pressure changes in real-time in the liquid channels
- Monitored Air Displacement detects clots or empty wells during the aspiration step in real-time
- Total Aspiration and Dispense Monitoring verifies with a traceable digital audit trail that a sample has been successfully transferred
- Liquid Level Detection determines liquid levels in tubes and plates located on the pipetting deck

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Microlab STAR Lab Automation Platform

# Unrivaled features maximize sample care and integrity

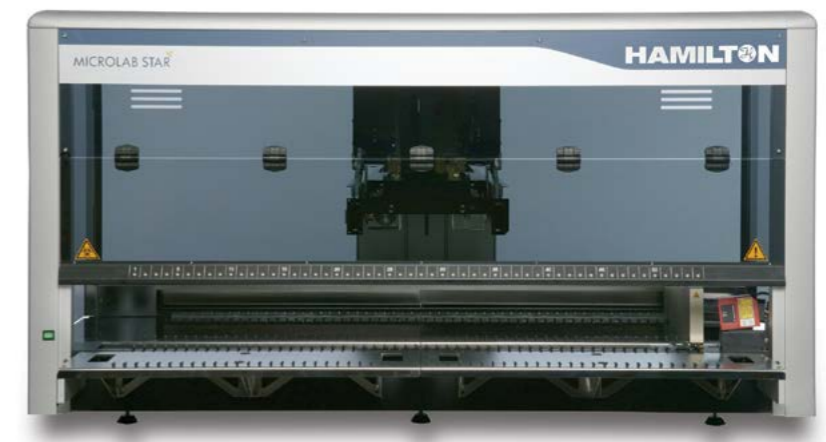
The Microlab STAR Line of workstations uses air displacement pipetting and the unique CO-RE system for forceless tip pickup and ejection. These unrivaled features maximize sample care and integrity. This technology is applied to independent pipetting channels and multi-probe heads; simply switch on your system and start running your method.

Due to the modular design, changes and upgrades to existing configurations are easy with STAR instruments. As your projects change, your STAR workstation can also evolve to meet new challenges. Most upgrades can be performed in your lab within one or two days to minimize downtime.

## Features

- Air Displacement Pipetting
- Compressed O-Ring Expansion Technology
- Total Aspirational and Dispense Monitoring
- Anti-Droplet Control
- Dynamic Liquid Classification
- Dual Liquid Level Detection

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TECAN solutions for Analytical Chemistry, Biobanking, Clinical Solutions, Genomics and ELISA

# One platform, unlimited solutions



**Tecan automated products** are designed for laboratory applications throughout the life science and diagnostic markets. Advanced and innovative technologies enhance the consistency and standards of your workflows, resulting in better quality and more reliable data. An extensive range of flexible and scalable automation products has solutions for every laboratory, whatever your size or application needs.

## Liquid Handling & Robotics

An extensive product line for automation is suitable for applications within the life science and diagnostic markets. We offer the most flexible pipetting platform available today providing you with the tools you need to automate your laboratory research.

## Reader & Washer

Tecan's cutting edge bench-top microplate readers and washers lead the industry in both versatility and performance, and can operate either stand-alone or seamlessly integrated in Tecan's automated liquid handling systems.

## Microarray Products / Workflow

Tecan's cutting edge range of flexible, automated microplate and microarray instruments include multifunctional, modular and upgradeable systems, that offer laboratories the flexibility to grow with the demands and complexities of research, whatever your technology and throughput requirements.



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# SIFT-MS

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Syft Voice200ultra SIFT-MS

# Analyze volatile organic compounds in real time

The **Voice200ultra SIFT-MS** (Selected Ion Flow Tube Mass Spectrometry) enables the analysis of multiple chemically-diverse VOCs in a single scan. Analysis identifies compounds present and their concentrations.

The SIFT-MS includes a touch-screen interface and networking capability, making it very easy to operate and support. It is most ideally suited for rapid analysis of gaseous samples (whole-air, headspace above solids and liquids, and breath).

## Features

- Instantaneous, quantitative analysis of air and headspace with very high sensitivity and selectivity
- Simultaneous analysis of chemically diverse VOCs (e.g. aldehydes, amines and organosulfurs)
- Direct analysis of high humidity samples
- Simplicity of operation
- Simple integration with existing infrastructure
- Low maintenance and long-term stability
- Install in a fixed position or vehicle-mounted



# Trace Elemental Analysis

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Agilent 7800 ICP-MS

# Removes uncertainty, simplifies routine analysis

The **Solution-Ready Agilent 7800 ICP-MS** combines proven, robust hardware, auto-optimization tools, and Pre-set Methods to simplify routine analysis. With high matrix tolerance, wide dynamic range, and effective control of polyatomic interferences, the hardware takes the uncertainty out of analyzing complex or variable sample matrices. The 7800 ICP-MS is extraordinarily easy to set up and use, so you can quickly produce reliable results in the widest range of sample types.

## Features

- Fast track your routine metals analysis with ICP-MS MassHunter software
- Reduce sample preparation by analyzing samples containing up to 3% total dissolved solids (TDS) without dilution
- HMI reduces signal suppression, so high matrix samples can be measured accurately without requiring matrix matched calibration standards
- Ensure accurate data with effective interference removal
- Analyze major and trace analytes in a single run
- Maximize throughput and productivity



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Agilent 7900 ICP-MS

# Raise your expectations



Raise your expectations—the new **Agilent 7900 ICP-MS** opens up a new dimension in ICP-MS. With 10x higher matrix tolerance, 10x wider dynamic range and 10x better signal to noise than the world's bestselling 7700 ICP-MS Series, plus software so powerful that it can write your methods for you, the Agilent 7900 ICP-MS redefines ICP-MS. Again. The world's most powerful and automated ICP-MS includes the industry's most effective helium collision mode for unsurpassed interference removal, ensuring superior data quality whatever your application. With every component engineered for performance and reliability, Agilent's 7900 ICP-MS will put you on the path to success.



## Features

- Robust plasma and optional Ultra High Matrix Introduction (UHMI) technology enable you to routinely measure samples containing up to 25% total dissolved solids (TDS)
- Widest dynamic range — measure trace elements and majors in the same run.
- Better trace level detection
- Faster analysis of transient signals
- Unmatched ease-of-use with the MassHunter software
- Improved productivity



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Agilent 8800 Triple Quadrupole ICP-MS

# Delivers higher performance for difficult applications


The **Agilent 8800** is the world's first ICP Triple Quadrupole (ICP-QQQ) – a unique instrument that provides applications capabilities and research opportunities never possible before. It maintains the proven capabilities of Agilent's 7700 Series ICP-MS, and also offers unrivaled performance with higher sensitivity and lower backgrounds. The 8800 ICP-QQQ offers superior performance and flexibility with a range of unique and powerful modes of operation to deliver even higher performance for difficult applications.

## Features

- Higher sensitivity and lower backgrounds, providing improved performance compared to existing quadrupole ICP-MS instruments
- Improved performance in semiconductor manufacturing, advanced materials, clinical and life-science, and a wide range of research and routine applications where problematic interferences hamper measurements with single-quadrupole ICP-MS
- Unique configuration enables MS/MS operation, providing precise control of reaction processes in the ORS3 collision/reaction cell (CRC). MS/MS mode controls the ions that can enter the cell, delivering consistent and reliable results even when the sample composition is complex or variable



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Agilent 8900 Triple Quadrupole ICP-MS

# Leave interferences behind with MS/MS

The 2nd generation **Agilent 8900 ICP-QQQ** offers a range of configurations to cover applications from routine contract analysis to advanced research and high performance materials analysis. With helium mode performance and productivity to match Agilent's market-leading quadrupole ICP-MS systems, the Agilent 8900 ICP-QQQ adds MS/MS mode for controlled and consistent interference removal in reaction mode, making it the world's most powerful and flexible multi-element analyzer.

## Features

- Controlled reaction chemistry for consistent, reliable results
- Resolution of isobaric overlaps, beyond capability of high-resolution ICP-MS
- Lowest detection limits, even for previously difficult elements such as S, Si, P
- Powerful ICP-MS MassHunter software simplifies your workflow and automates your method development
- 4-channel cell gas control as standard
- Unique precursor/product ion scan modes clarify reaction processes
- The most exciting and versatile ICP-MS for research and method development



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Agilent 5110 ICP-OES

# Run your toughest samples without compromise

The **Agilent 5110 Synchronous Vertical Dual View (SVDV) ICP-OES** features unique Dichroic Spectral Combiner (DSC) technology that enables synchronous radial and axial measurements. Combined with a vertical torch and high speed, zero gas consumption VistaChip II CCD detector, the 5100 ICP-OES (also referred to as ICP-AES) runs even your toughest samples up to 55% faster using 50% less argon, without any compromise on analytical performance.

## Features

- Run the fastest ICP-OES analysis, using less gas
- Reduce your cost-per-analysis and more than double your productivity with an Advanced Valve System (AVS)
- Measure your toughest samples with a vertical torch – from high matrix to volatile organic solvents
- Reduce sample uptake, stabilization times, and rinse delays using the optional AVS
- See all elements in your sample at a glance - simplifying method development and enabling rapid sample screening
- Achieve long term analytical stability with a solid-state RF system that delivers a robust plasma
- Take the guess work out of method development with intuitive ICP Expert software and our DSC technology
- Ensure fast startup with minimal training using a fully integrated switching valve and a plug-and-play torch
- Available in three flexible configurations: Synchronous Vertical Dual View, Vertical Dual View and Radial View



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# Molecular Spectroscopy

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## Agilent Compact & Portable FTIR Systems

# Meeting the challenges of FTIR analysis in the field

To meet the challenges of FTIR analysis in the field, Agilent has developed the world's smallest FTIR instruments. Compact FTIR systems deliver the sensitivity and efficiency of a lab-based system, yet are fully portable. These portable FTIR systems feature integrated power supplies and Flexscan and Exoscan technology for efficient scanning performance. Lightweight handheld FTIR optics and sampling modules enable advanced FTIR capabilities in field applications such as conservation and mineral identification.

### Available Models

- **Agilent 4300 Handheld** - employing lightweight ergonomics, ease of use, ruggedness, and flexibility into one system
- **Agilent 4500 Series Portable** - support at site analysis of incoming materials and outgoing finished products in the chemical, food and polymer industries
- **Agilent 4200 FlexScan Series FTIR** - a dual module system; the optical module is separated with the electronics module to provide additional portability
- **Agilent 5500 Series Compact** - provide you with great results rapidly and reliably day after day
- **Agilent 4100 ExoScan Series** - a one module, light-weight system that offers rich versatility and features



4100 Series



4300 Series



4500 Series



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Agilent FTIR Benchtop Instruments

# Industry-leading sensitivity and efficiency

Agilent's **FTIR benchtop instruments** provide industry-leading sensitivity and efficiency in a variety of materials research applications. We have the system for your needs, whether you require robust and consistent operation for routine petro-chemical analysis, or high sensitivity and a wide spectral range for research in polymer analysis or material science. Our versatile and intuitive Cary FTIR systems can also be enhanced with an extensive portfolio of accessories and supplies.

## Features

- **Agilent Cary 630 FTIR Spectrometer**  
provides superior quantitative and qualitative information for routine analysis of solids, liquids, and gases. With high performing optics and a wide range of sample interfaces
- **Agilent Cary 670 FTIR Spectrometer**  
designed to provide the highest performance for researchers in fields such as polymers/materials, pharmaceuticals, biotechnology and chemicals
- **Agilent Cary 660 FTIR Spectrometer**  
high-performance spectrometer suitable for routine spectrometry and research analysis



Cary 630



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Agilent FTIR Microscopes & Imaging Systems

# Screen more samples faster



The **Agilent Cary FTIR microscopes and chemical imaging systems** represent the latest in cutting-edge performance, delivering unparalleled spatial resolution and sensitivity. When coupled with the wide range of options available, they provide flexibility to suit all applications ranging from routine measurements to cutting-edge applied research.

The Cary 610 is a single point FTIR microscope, capable of mapping, while the Cary 620 is a Focal Plane Array (FPA) chemical imaging FTIR microscope.

With the option to couple the microscope to either a research-grade Cary 660 FTIR or top of the range, air bearing, Cary 670 FTIR spectrometer, you get two instruments in one – a research FTIR spectrometer and an FTIR microscope.

The Cary 610 can be upgraded to a Cary 620 at a later date, providing flexibility for when application needs change.



Cary 620



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Metrohm NIRSystems Spectroscopy Solutions

# Dedicated near-infrared solutions



**Metrohm NIRSystems laboratory analyzers** with their patented monochromator can be operated in QC, R&D, and plant laboratories. Modular sampling accessories allow for analyses of powders, granules, solids, slurries, gels, pastes, and turbid or clear liquids.

The patented design of Metrohm NIRSystems analyzers offer unparalleled performance and precise instrument matching to reduce your method development effort, minimize your implementation time and ensure seamless method transferability.

## Features

- Wide range of measuring options for dedicated applications
- Hot-swappable modules offer flexibility to expand application anytime with NIRS XDS models
- Precise instrument matching, ensures that both quantitative and qualitative methods can be transferred directly from one NIR analyzer to another
- Gateway to process
- Covers different working conditions: atline, offline, inline, and online
- A new level of consistent and reliable instrument performance, integrated diagnostic routines
- Analysis while operating in harsh industrial environments



### NIRS XDS series

The next generation of NIR technology offering measurement flexibility through a hot-swappable feature. Each measuring module is easily exchanged, with no downtime, for the best performance of your application or sample type.



### NIRS DS2500 Analyzer

The NIRS DS2500 offers the same broad wavelength range, 400 to 2500 nm as the XDS, but in one dedicated, cost-effective solution. Developed for routine analysis in any environment, the DS2500 is suitable for use atline in the production plant.



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## Galaxy Scientific QuasIR FT-NIR Spectroscopy Systems

# Maintains performance under extreme conditions

The **QuasIR™ Fourier Transform Near Infrared Spectroscopy** (FT-NIR) Series from Galaxy Scientific provides a fast, simple, non-invasive way to determine the chemical makeup of a variety of samples for both qualitative and quantitative information. QuasIR technology was developed with an innovative optical design that maintains alignment and performance under extreme conditions.

### Features

- Compact, portable, and high performance FT-NIR spectrometers probe for lab, field, and on-line applications
- Innovative optical design that maintains alignment and performance under extreme conditions
- Unmatched instrument-to-instrument consistency and direct method transfer so you can expand your fleet
- Automatic Performance Testing Unit provides an easy, automated way to monitor instrument performance
- Software suite delivers ease-of-use for everyday analysis and functions for advanced method developers
- Low Cost of Ownership:
  - 20,000-hour user replaceable NIR source
  - 10-year laser life
  - 10-year interferometer drive
  - User replaceable desiccant



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# Lab Essentials

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## Metrohm Titration Solutions

# Solutions tailored to your requirements

**Metrohm** market-leading titrators are ideal for any lab. Discover high-quality titrators, accessories, electrodes, sample changers, and software from Metrohm.

### Omnis

Faster, safer, easier: The all-new titration system from Metrohm puts your requirements in the focus and offers a whole new level of performance. It can handle up to four parallel analyses and automated sample processing of up to 175 samples. Patented 3S technology for supports handling of chemicals without contact.

### Titrando

Titrando is a high-end potentiometric titrator that leaves nothing to be desired: full flexibility, full compliance, and full system integration. Titrando is the right titrator for any analytical requirement. It offers full traceability and compliance (GLP, GMP, and FDA 21 CFR Part 11), extraordinary convenience: iTrodes, Dosinos, and tiamo software, and automation and expansion options for customized setups.

### Ti-Touch

The Ti-Touch is a space-saving stand-alone potentiometric titrator for routine applications. It can be used for all common titration types. As the Ti-Touch has a built-in touch-screen control unit, no PC is needed for operation. It offers start methods with one button, integration into your LIMS, and safe reagent handling.

### Titrimo plus

Entry-level potentiometric titrator for a wide range of basic applications. This titrator is easy to use, safe, and reliable. It delivers high precision at an economical price. It supports many applications and automation options.



Omnis



Titrando



Ti-Touch



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## Peak Scientific On-Site Gas Generators

# Nitrogen, hydrogen and zero air systems

An on-site gas generator from **Peak Scientific** is the practical and cost-effective alternative to pressurized gas cylinders, dewars or bulk storage of laboratory gas. Traditional sources of gas incur on-going delivery, administrative and rental costs all of which impact on business revenue or facility budgets. A Peak generator provides you with a dependable, easy to use on-demand gas solution without any of the safety concerns or practical considerations highlighted above.

### Features

- Genius Series - nitrogen generators for LC-MS applications
- Infinity Series - nitrogen source for labs with external source of air
- Precision Series - nitrogen, hydrogen, zero air gas solution for GC applications
- i-FlowLab - a total lab solution for onsite generation of nitrogen gas



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# Clinical Solutions

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Agilent 6400 Triple Quadrupole LC/MS

# Renowned reliability, overall system robustness

Meet your quantitative needs with triple quadrupole performance that gives you superior sensitivity, renowned reliability, and overall system robustness. **Agilent 6400 Series Triple Quadrupole LC/MS Systems** are proven choices for quantitative applications in pharmaceutical ADME/DMPK studies, biomarker validation, clinical research, food testing, forensics, toxicology, and environmental analyses.

Choose an Agilent 6420, 6460, 6470 or 6495 Triple Quadrupole LC/MS system for unmatched productivity, performance, and value for all your analytical needs.

## Available Models

- Agilent 6420 is an economical and easy to use instrument for laboratories requiring routine and standard quantitative capabilities
- Agilent 6460 adds proven Agilent Jet Stream technology to dramatically increase sensitivity and reliability for trace level analysis and a wide range of challenging applications
- Agilent 6470 incorporates enhanced ion optics and detector design to deliver attogram-level sensitivity and support high-throughput labs with ultrafast analyses, 24/7 reliable operation, and highest productivity
- Agilent 6495 delivers the lowest attogram-zeptomole limits of detection and quantitation over the widest linear dynamic range for your most demanding applications



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Agena Biosciences MassARRAY System

# A flexible, scalable genetics platform

The Agena MassARRAY System combines mass spectrometry, sensitive and robust chemistry, and advanced data analysis software to meet the assay design, validation, and performance needs of genomic laboratories. The sensitivity of the system allows a variety of sample types to be tested, from FFPE, to blood plasma, to whole genome amplified DNA. Any combination of method, reagent, application, and sample type can be tested and analyzed.

## Features

- Accurate - Nucleic acid detection by mass spectrometry enables readout by molecular mass
- Scalable - set up for 24-, 96- and/or 384-well format
- Efficient Workflow - Obtain results in a single day with limited hands-on time
- Flexible - Ideal for targeted genetic analysis
- Cost-Effective - Minimal bioinformatics, sample cost and resource requirements

**Agena**  
BIOSCIENCE



## CLC800 Clinical Chemistry Analyzer

# Cost-effective testing for small & mid-sized labs

The **CLC800 chemistry analyzer** provides cost-effective testing for small- and mid-sized laboratories. This sleek floor model fits in limited spaces to seamlessly become an integral part of your laboratory, increase productivity and provide better results. The CLC800 is quiet, small, fast and economical.


With the ability to process up to 400 photometric chemistry tests per hour and bar-coded sample tubes, the CLC800 gives your organization the tools to get test results quickly and efficiently.

### Features

- Advanced Photometric System and a sample/reagent pipetting mechanism provide high levels of accuracy for your laboratory
- Includes two reagent compartments, 88 reagent positions and 2 other positions for eliminating off-line sample pre-treatment.
- A multi-function refrigerated sample wheel offers 115 sample positions and supports various tubes and sample cups
- Two stand-alone stirrers avoid liquid suspension and reduce cross contamination
- Robust calibration functionality enables automatic calibration and nine selectable calibration curves



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## CLC1600 Clinical Chemistry Analyzer

# Powerful, high-volume chemistry analyzer

A powerful, high-volume chemistry analyzer, the **CLC1600** is perfect for both mid-size and large clinical labs. The CLC1600 offers you peace of mind with its reliable, up-to-date software, micro-electronics, fluidics and robust hardware.

The CLC1600 features precise results, uses less reagent and requires less maintenance than comparable products. It uses an advanced photometric system and anti-ambient light interference control system to ensure precise results. The holographic concave flat field grating uses technology that leads to less reagent waste. Its high-efficient rinsing system results in a carryover contamination rate of  $\leq 0.1\%$ .

### Features

- Built-in troubleshooting guides, real-time online technical support, user friendly interfaces and report customization capabilities
- Robust calibration functionality enables automatic calibration and nine selectable calibration curves
- Advanced calibration and QC functions provide a range of user benefits
- Barcode scanning functions enable you to use automatic sample barcoding to enduring positive sample identifications



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## CLC6410 Clinical Chemistry Analyzer

# Designed for large hospitals and reference labs

The **CLC6410** modular chemistry analyzer, designed for large hospitals and reference laboratories, allows throughput to expand from 1,600 tests per hour in a single module to 6,400 tests per hour in four modules. Maximum ISE throughput up to 960 tests/hr.

### Features

- Stable temperature control system offers direct heat release
- Built-in troubleshooting guides, a convenient and efficient data dictionary, real-time online technical support, user friendly interfaces and report customization capabilities
- Large Capacity sample loader and track enables auto-track loading for greater efficiency and productivity (up to 30 sample racks or 300 samples)
- Optional, independent ISE modules can run 480 tests per hour per module with a maximum throughput of 960 tests per hour, and offer indirect simultaneous measurement of K<sup>+</sup>, NA<sup>+</sup> and CL<sup>-</sup>
- Built-in Monitoring and calculating functions check for linear limits, reference limits, substrate depletion and excess antigen
- Advanced Photometry system offers cluster-condensing light technology for microvolume analysis and reduced reagent consumption
- High Precision ceramic piston ensures high precision of sampling and a low maintenance cost
- Polished probes with nano processing technology effectively reduce cross-contamination



Horiba Pentra XL80 Hematology Analyzer

# High performance with integrated validation

The **ABX Pentra XL80 Hematology Analyzer** from Horiba delivers the performance you need from a hematology analyzer. Enjoy 26 parameters (CBC (12) and DIFF (14)), a large capacity autoloader for 100 tubes and an integrated validation station. With the Pentra XL80, you can enjoy easy access to information with an instrument that is ergonomic, safe and convenient to use. The instrument offers onboard data management with a focus on traceable. Enjoy being able to process and manage results both securely and easily.

## Features

- 80 test per hour
- Large capacity auto-loader (100 tubes)
- Stat sampling on open or closed tubes
- 26 parameters: CBC (12), DIFF (14)
- Micro-sampling on whole blood: 30  $\mu$ L in CBC mode and 53  $\mu$ L in CBC+DIFF mode
- Customized Dilution Ratio (CDR)
- Automatic Sample Re-run
- Integrated Validation Station
- Compatible with ABX Pentra ML (Multilink System) to centralize hematology operations

# HORIBA



## Tosoh AIA-900 Automated Immunoassay Analyzer

# Powerful automation with flexible expansion capabilities

With the **AIA-900 immunoassay analyzer**, multi-tasking is now a reality. Available in four configurations, the AIA-900 offers powerful automation for immunoassay testing with flexible expansion capabilities. Choose the system that works best for your laboratory workload. The AIA-900 immunoassay analyzer provides flexible automation for hospitals of all sizes, reference laboratories, large clinics and core labs. It is available in a benchtop, loader model, 9-tray sorter and 19-tray sorter.

### Features

- 90 tests/hour throughput
- First result in ~ 18 minutes
- Random access / Continuous processing
- 90-day calibration for most assays
- Simple touch screen operation
- Bar-coded primary tube sampling
- Clot detection
- Automated pretreatment
- Automated dilution from 2 to 1000



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# Cannabis Solutions

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Sage Beacon for Cannabis Analysis

# Real time laboratory grade data at a fraction of the cost

The Beacon and Luminary Profiler from Sage Analytics deliver a simplified solution for real-time potency profiling through spectroscopy.

## The Luminary Beacon

A stylish, desktop unit with an integrated touchscreen makes the Beacon perfect for anyone with limited benchtop space. Lightweight, portable and user-friendly, the Beacon offer real-time laboratory grade potency data available to anyone with in the cannabis ecosystem in a matter of seconds, at a fraction of the cost.

### Features

- Instant, accurate and repeatable measurements of Total THC, THCA, Total CBD, and CBDA of flowers and concentrates
- Gather, process and interpret data in seconds
- Portable, easy-to-use interface that doesn't require a trained technician
- A greener method: simply uses light, no need to heat, burn or destroy samples
- Compact, lightweight, desktop design that requires little space



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## Sage Luminary for Cannabis Analysis

# A rugged and easy to use portable benchtop device

The Beacon and Luminary Profiler from Sage Analytics deliver a simplified solution for real-time potency profiling through spectroscopy.

### The Luminary Profiler

An easy to use portable benchtop device made specifically for commercial environment, such as labs extract processors and grow houses. The rugged housing was designed to be impact resistant and power washed for easy clean-up.

#### Features

- Accurate and affordable measurements of Total THC, THCA, Total CBD and CBDA that can now be read onsite by any operator, at any time during production
- Growers can optimize harvest, no more wait times for potency testing or destruction of samples
- Laboratories can increase their potency measurement throughput and decrease skill requirements of testing personnel, keys to increasing profitability
- MIP producers of edibles and other infused products can rely on highly accurate measurements of cannabinoid potency to create more reliable and consistent products for which their customers will appreciate and purchase again



# Metrology

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Sentronics SemDex Metrology Systems

# Turn-key measurement solutions

The powerful, modular system can be equipped with a diversity of handling and measurement configurations like different sensors, measurement stages and automation hardware (dual-arm robot, load ports, aligner and ID readers). Substrate-layer thickness, TTV or the total thickness of a stacked wafer, bow, warp and flatness of a wafer can be determined with sub- $\mu\text{m}$  accuracy in a single measuring run. Surface roughness down to nm level and furthermore, TSV, RST and mini-bump parameters can be retrieved as well.

## Features

- Several pure sorting functions including compress, split, merge and randomization
- Equipped with up to 4 load ports for 200 mm (8") wafers or up to 3 load ports for 300 mm (12")
- Two robot arms provide high throughput handling
- Wafer flipping is possible at all stations
- Can be equipped with a rotational stage for fast measurements that cover the complete wafer area
- Usage of multiple readers to measure the wafer or glass carrier ID ensures maximum flexibility
- Intuitive WaferSpect Software for measurement planning

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Rent, lease or purchase the instrument your lab needs today.

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