

Agilent Cary 630 FTIR Spectrometer

INNOVATIVE. INTUITIVE. RELIABLE.

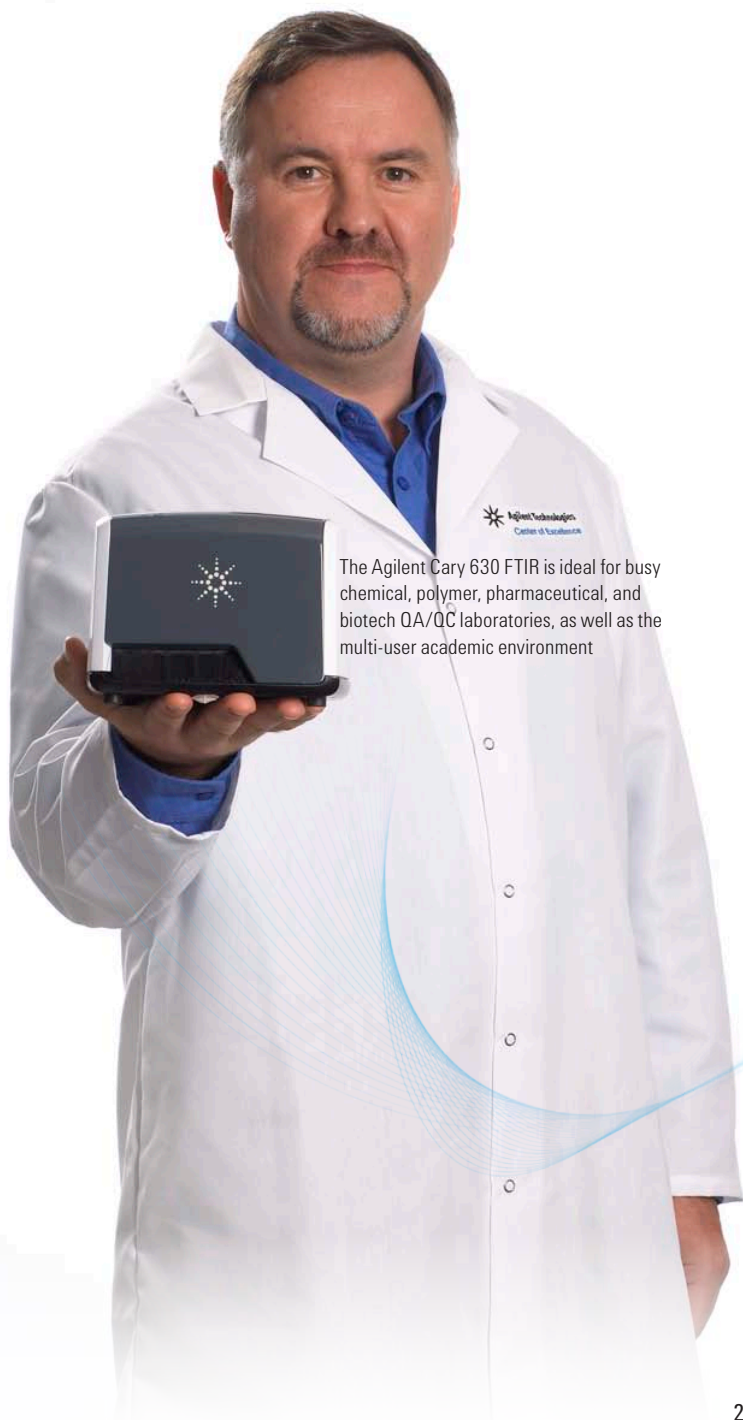
The Measure of Confidence



Agilent Technologies

AGILENT CARY 630 FTIR

Agilent Technologies is your premier resource and partner for molecular spectroscopy. Encompassing portable and in-lab FTIR, UV-Vis-NIR, and Fluorescence, Agilent offers you a comprehensive range of molecular spectroscopy solutions.



The Agilent Cary 630 FTIR is ideal for busy chemical, polymer, pharmaceutical, and biotech QA/QC laboratories, as well as the multi-user academic environment

Quality answers – fast

The Agilent Cary 630 FTIR spectrometer is innovative, intuitive, and reliable, providing superior quantitative and qualitative information for routine analysis of solids, liquids, and gases. With a wide range of sample interfaces and high performing optics, the compact Agilent Cary 630 FTIR will give you accurate results — fast.

The Agilent Cary 630 FTIR is:

- **Innovative** — unique sampling accessories slide in and out in seconds, with no alignment required, making liquid transmission measurements as easy to use as ATR
- **Intuitive** — multi-language software guides users through every step of operation, while color coded alerts make it easy to see whether samples meet specification
- **Reliable** — field proven, rugged optomechanical system offers outstanding performance and reproducibility, even in humid and tropical environments, providing answers you can trust
- **Versatile** — interchangeable sampling accessories for all your analysis needs, including transmission, DialPath, Tumbler, diamond ATR, germanium ATR, ZnSe multi-bounce ATR, specular reflectance and diffuse reflectance
- **Compliant** — software allows 21 CFR Part 11 and GLP/GMP compliance
- **Compact** — taking up only 20 x 20 cm of bench space, and weighing just 3.8 kg (8 lb), the Agilent Cary 630 FTIR is the world's smallest FTIR
- **Affordable** — the Agilent Cary 630 FTIR offers leading performance at an attractive price

AGILENT CARY 630 FTIR

MOLECULAR SPECTROSCOPY INNOVATIONS

| | | | | | | |
|--|---|---|--|---|---|--|
| 1947 First commercial recording UV-Vis, the Cary 11 UV-Vis | 1954 Release of the Cary 14 UV-Vis-NIR | 1969 First rapid-scanning Fourier transform infrared spectrometer, the FTS-14 | 1979 First use of a mercury cadmium telluride (MCT) detector in an FTIR | 1982 First FTIR microscope, the UMA 100 | 1989 Release of the acclaimed Cary 1 and 3 UV-Vis | 1999 First 256 x 256 MCT focal plane array for analytical spectroscopy |
| 2000 First ATR chemical imaging system | 2007 Smallest, most rugged commercially available interferometer introduced | 2007 TumblIR sample accessory introduced — a revolution in FTIR liquid sampling | 2008 Launch of the Cary 600 Series FTIR spectrometers, microscopes and imaging systems | 2008 First handheld FTIR, the ExoScan | 2011 Agilent offers out-of-lab FTIR solutions | 2011 Compact, versatile Cary 630 FTIR introduced |

FOR YOUR APPLICATION

Agilent is committed to providing solutions for your application. We have the technology, platforms, and expert guidance you need to be successful.

| MATERIALS | BULK, SPECIALITY & FINE CHEMICALS | FOOD |
|--|--|--|
| <p>Identify and confirm plastics, elastomers, and adhesive materials by comparing spectra with the onboard library</p> <p>Verify the composition and quality of composites, coatings and thin films</p> <p>Analyze contaminants during semiconductor processing and solar cell manufacturing</p> <p>Confirm that formulated and finished products comply with defined specifications</p> <p>Track paint curing and composition</p> <p>Determine the concentration of UV stabilizers, antioxidants, or filler in plastics</p> <p>Determine the degree of cure and composition of rubber</p> <p>Analyze and measure thickness uniformity of wax or oil on polymer and metal surfaces</p> | <p>Confirm the identity of incoming raw materials</p> <p>Ensure the quality of compounds used in human food, health and cosmetic products</p> <p>Analyze and confirm the composition of finished products</p> <p>Measure the concentration of additives in formulations</p> <p>Measure analytes in specialty solvents used in electronic component manufacturing</p> <p>Analyze individual flavor components in a final flavor formulation</p> <p>Analyze compounds in support of synthesis and/or blending processes</p> <p>Analyze polymers, composites and other engineered materials for composition and structure</p> | <p>Determination of trans fat content of edible fats and oils</p> <p>Rapid authentication and detection of adulteration of food, herbal medicines and dietary supplements</p> <p>QA/QC of various foods, such as coffee, tea, sugar and flour</p> <p>Free Fatty Acid (FFA) & Iodine Value (IV) determination in oils</p> |
| ACADEMIC | PHARMACEUTICAL | |
| <p>Teach students the basics of FTIR spectroscopy</p> <p>Perform measurements for undergraduate and graduate analytical, organic and physical chemistry labs</p> <p>Routine research support for organic, polymer and materials synthesis</p> <p>Characterize unknown or newly synthesized compounds</p> <p>Measure films and surface components</p> <p>Monitor chemical or biological reactions that occur over time</p> | <p>Ensure incoming raw materials identity</p> <p>Analyze API's and drug products for overall purity and conformity</p> <p>Analyze intermediates and work-in-progress compounds for identity and overall purity</p> <p>Identify the structure and concentration of products formed in a reaction</p> <p>Analyze contaminants and particles in products</p> <p>Determine if drug samples are counterfeit or adulterated</p> | |

SMALL SIZE, BIG PERFORMANCE

Maximize your lab bench or fume hood space, and achieve the maximum in performance and ruggedness, without downtime.

Innovative design, unique technology

The compact, lightweight Agilent Cary 630 FTIR is big on performance and versatility. This is achieved through an innovative, integrated design that creates an easy-to-use, exceptionally reliable spectrometer.

- Large 25 mm optical aperture and very short internal optical path in the interferometer provide performance levels associated with far larger lab systems
- Optics are permanently aligned for ease-of-use and reliable operation
- The interferometer's moving mirror uses the unique Flexture system for long-lasting, proven reliability
- Solid state laser provides long life, reliable operation and precision while enabling compact design
- Interchangeable standard transmission module, DialPath, Tumbler, diamond ATR, germanium ATR, ZnSe multi-bounce ATR, specular reflectance and diffuse reflectance sampling accessories for optimized optical performance and zero user alignment
- The only required external utility is power



The world's smallest, most robust benchtop FTIR

The compact, lightweight Agilent Cary 630 FTIR is big on performance and versatility.



Snap-and-go accessories improve testing

The Cary 630 FTIR accessories slide in and out in seconds, with no alignment required. Shown is the ZnSe multi-bounce ATR accessory.

SIMPLICITY THROUGH INNOVATION



Interchangeable sampling accessories

Shown left to right are 10° specular reflectance accessory, diamond ATR, germanium ATR, ZnSe multi-bounce ATR, DialPath, Tumbler, diffuse reflectance accessory and (front) 45° specular reflectance accessory, Cary 630 FTIR engine and standard transmission module.

The Agilent Cary 630 FTIR has a sampling accessory to suit your application and user requirements.

The Agilent Cary 630 FTIR sampling accessories are fully interchangeable and integrate into the optomechanical system. The result is exceptional performance and ease-of-use, and the versatility to meet the needs of busy multi-user environments.

Sampling accessories available with the 630 include:

- Agilent’s innovative Tumbler and DialPath technologies for rapid transmission analysis of liquids
- ATR modules to handle a wide range of solids, pastes, gels, rubbers and liquids. Includes Diamond and Ge single bounce ATRs and a ZnSe multibounce ATR.
- Diffuse reflectance for materials that scatter infrared light, such as powdered samples, and specular reflectance for measuring samples such as optics, mirrors and glass
- Transmission module that accepts standard KBr pellets, liquid, and gas cells

The DialPath advantage

Discover the advantages of Agilent’s unique DialPath technology:

- Makes transmission spectroscopy of liquids as easy as ATR
- Ideal for both qualitative and quantitative analysis — instantly select from one of three factory-calibrated, fixed pathlengths between 30 and 1000 microns
- Select a longer pathlength window set for lower concentration samples, or use a shorter pathlength for more concentrated samples
- No spacers are required so there is no leakage, and no fringing
- No autosamplers or syringes are required for sample introduction
- Effectively handle liquids of varying viscosity and volatility

Three steps to analysis with the DialPath

1 Ensure the crystal is clean

2 Place your sample on the window

3 Turn the DialPath to your required pathlength to analyze

BULK, SPECIALTY, AND FINE CHEMICAL APPLICATIONS

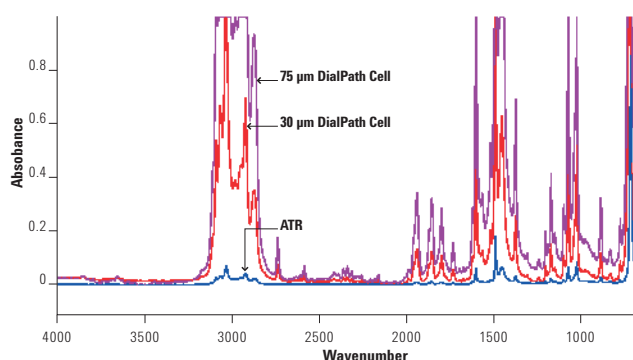
Designed for routine QA/QC labs and other multi-user, high traffic environments, the proven robustness and versatility of the Agilent Cary 630 FTIR will change everything you know about FTIR analysis.

Identify and measure

The Agilent Cary 630 FTIR spectrometer is a reliable and extremely versatile system for routine every day, every minute QA/QC, Analytical Services and Methods Development operations. And with Agilent's revolutionary DialPath technology, you can measure liquid samples in seconds, not minutes.

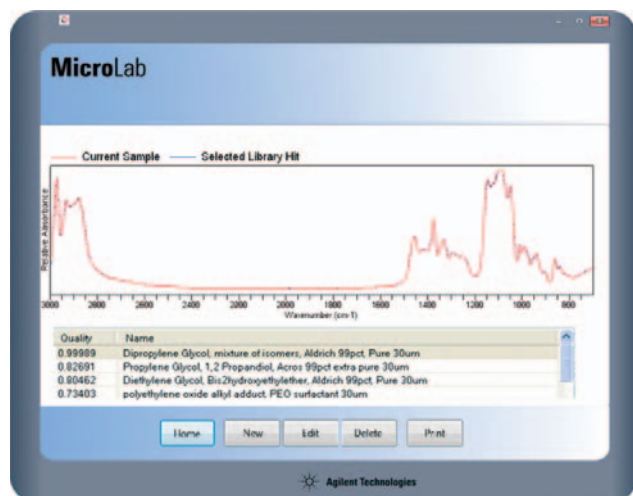
For bulk, specialty, and fine chemical analysis, you can:

- Quickly confirm the purity of incoming chemicals and final products
- Use spectral libraries to quickly authenticate solvents, surfactants, specialty amines, or industrial organic chemicals
- Accurately measure levels of known additives to ensure manufacturer's specifications are met
- Ensure blends and mixtures of fine chemicals are properly formulated
- Easily handle the widest range of specialty and fine chemicals for applications in human health, food, and cosmetics industries
- Have confidence – the Agilent Cary 630 FTIR has GMP/GLP compliance



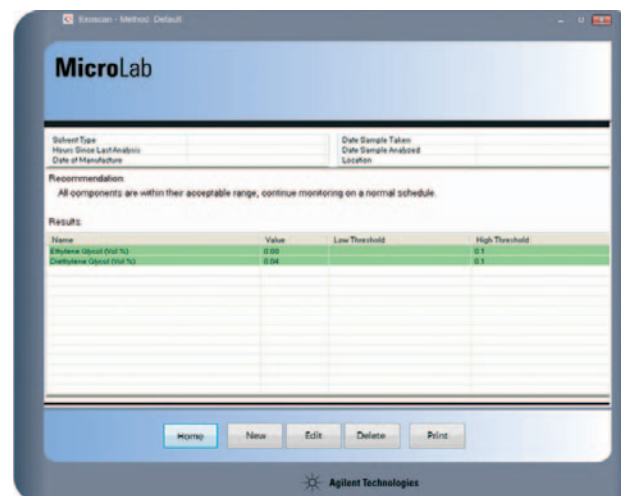
Chemical analysis made fast and easy

Spectra of toluene measured on the Agilent Cary 630 FTIR using the diamond ATR and DialPath at 30 and 75 µm shows the range of sensitivity available for a broad range of applications.



High quality matches

Rapidly compare your results to onboard spectral libraries. Analyze individual compounds to display high quality matches to reference spectra and confirm the identity of your sample.



Ensure sample is within specification

The green color bands indicate that the level of impurities are within the user set specifications.

MATERIALS TESTING APPLICATIONS

When you need to consistently and cost-effectively deliver the highest quality finished products and materials, innovative, reliable analytical solutions are essential to your success. Analyze material heterogeneity and sample contaminants within seconds with the Agilent Cary 630 FTIR.

Reliable and easy-to-interpret

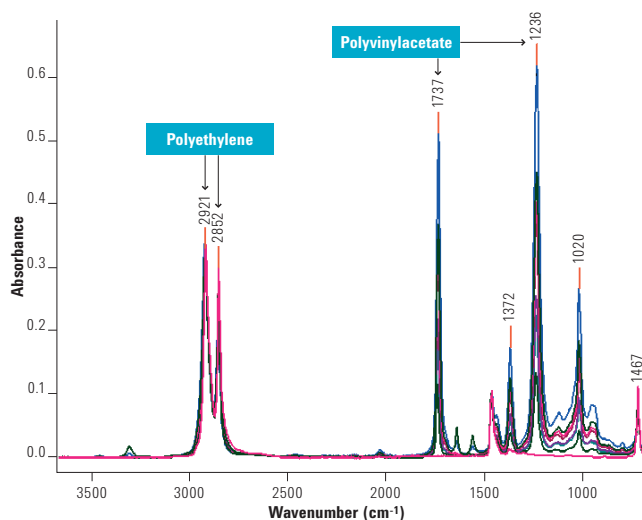
The ultra compact size of the Agilent Cary 630 FTIR saves laboratory space and easily fits on benches, in a glove box or under a fume hood, making it ideal for reaction analyses that require safety precautions.

For the routine analysis of materials in the chemical and polymer industries, use the Agilent Cary 630 FTIR to:

- Identify and confirm plastics, elastomers, and adhesive materials by comparing spectra with the onboard library
- Verify the composition and quality of coatings and thin films
- Analyze contaminants during semiconductor processing and solar cell manufacturing
- Confirm that formulated and finished products comply with defined specifications
- Track paint curing and composition
- Determine the concentration of UV stabilizers, antioxidants, or filler in plastics
- Determine the degree of cure and composition of rubber
- Analyze and measure thickness uniformity of wax or oil on polymer and metal surfaces
- Analyze high carbon-content samples such as tires, o-rings and rubbers

Quantitative analysis of co-polymers made easy

Polyethylene vinyl acetate (PEVA) is very common in everyday products used in the home, sports equipment, industrial, and medical applications. The ratio of polyethylene (PE) to vinyl acetate (VA) in PEVA can affect the physical properties of the final product, making it important for manufacturers to have a fast, easy measurement procedure for these components. The Agilent Cary 630 FTIR with diamond ATR accessory is ideal for these applications.



Spectral overlay of seven commercially available standards of PEVA ranging from 0% VA (red) to 40wt% VA (blue) measured within seconds. These spectra are used to build a calibration curve.



ACADEMIC APPLICATIONS

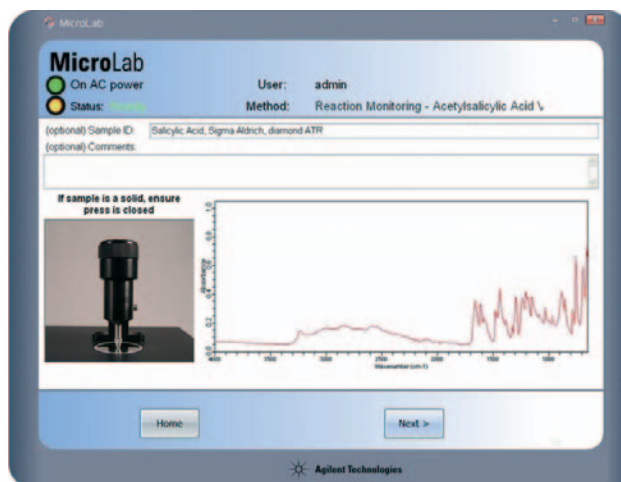
Catering to a variety of applications and user levels, the Agilent Cary 630 FTIR has the capabilities of much larger, FTIR instruments, without the complexity, maintenance requirements, or upfront and ongoing costs.

Sensitive and flexible

Ideal for the busy, multi-user environment found in colleges and universities, the Agilent Cary 630 FTIR is reliable and robust — whether it is being used for teaching undergraduate students in an analytical chemistry laboratory or identifying the products from a synthesis in a graduate research lab.

For academia, the Agilent Cary 630 FTIR delivers:

- Robust design — the diamond ATR is impervious to scratching and virtually all corrosive materials, and the interferometer is insensitive to vibration
- Simplicity — the intuitive software is available in regional languages, to get students up and running samples in minutes. Software guided sampling helps to explain the basics of FTIR
- Versatility — interchangeable, zero alignment sampling accessories to rapidly measure powders, pastes, gels or liquids
- Advanced data analysis — extend post-collection data analysis and ensure research needs are met with simple one-button transfer to the advanced Resolutions Pro software
- Lowest cost of ownership — a user replaceable desiccant and long-lived source minimize maintenance costs
- Innovative tools — revolutionary liquid sampling accessories ensure students and researchers are at the forefront of technology
- Compact size — the Agilent Cary 630 FTIR easily fits on lab benches or in fume hoods for reaction analyses that require safety precautions. And because it only weighs 3.8 kg (8 lb), it can be easily moved between labs



The unique design of the Cary 630 accessories ensures superior energy throughput — up to 30% greater compared to other routine FTIR systems — enabling faster data collection, lower noise and superior quality. Coupled with the easy-to-use MicroLab software, that has users up and running samples in minutes, the Cary 630 FTIR is the ideal solution for teaching or research.

PHARMACEUTICAL APPLICATIONS

In a field that demands accuracy, productivity and regulatory compliance, your challenges have never been greater. With versatile sampling options, intuitive software and 21 CFR Part 11 compliance, the Agilent Cary 630 FTIR is ideal for busy QA/QC, methods development and analytical services laboratories.

Confidence in your results

Whether confirming the identity and conformity of raw materials, determining that finished products meet specifications or developing methods for others to use, the Agilent Cary 630 FTIR has a unique combination of features to aid you.

Robust, dependable operation

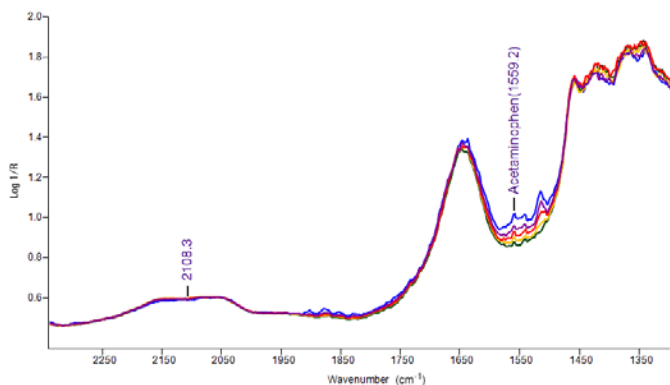
- Accurate and repeatable results day-in and day-out
- Optional 21 CFR Part 11 control for software applications
- Instrument self-diagnostics for peace of mind
- Proven, highly stable and robust hardware design to minimize any instrument downtime
- No utilities required for operation, other than power

Easy-to-use

- Software guided sampling
- Measure neat samples — no sample preparation is required
- Color coded alerts for out of specification material
- Software in regional languages
- Unique liquid sampling accessories for increased productivity

Versatile

- Multiple sampling accessories to rapidly measure all sample types, including powders, pastes, gels, gases, and liquids
- Sampling accessories slide in and out in seconds, with no alignment required
- Exclusive Tumbler and DialPath sampling technology for qualitative and quantitative analysis of liquids from > 3 μ l
- Ultra compact size easily fits on lab benches or in fume hoods



Carbonyl region of the FTIR diffuse reflectance calibration spectra of acetaminophen in cornstarch measured neat without dilution



Powerful MicroLab FTIR software ensures you get the answers you need quickly and easy.

Analysis made easy

- Be guided through sample introduction, analysis and cleanup by an intuitive, pictorial interface
- Ensure data quality by seeing the spectrum before a full data collection, using real-time analysis mode
- Perform straightforward diagnostics for optimal instrument performance and data quality
- Easily create qualitative and quantitative methods using the supplied development package
- Click a button to use pre-loaded and pre-calibrated methods
- Identify unknown compounds by searching a library or database
- Use color-coding to quickly identify whether analytes are above a critical threshold (red), approaching threshold (yellow) or within specification (green)
- Edit action thresholds for specific equipment or formulations
- Transfer data files via simple one-button operation to Agilent's Resolutions Pro software for advanced data analysis

Auto-recognition of sampling technology

- MicroLab software automatically recognizes all sampling accessories
- If a stored method is selected, auto-recognition guides users to select the correct sampling accessory and warns if the wrong accessory is in place
- Pictorial software interface is automatically updated, to reflect the selected sampling accessory



Innovative and intuitive MicroLab software guides users from sample introduction through to analysis

The Agilent FTIR range is unrivaled, innovative, and reliable. From bench-top instruments offering the highest analytical performance to dedicated portable analyzers for maximum flexibility, there is an instrument to suit every need.

Agilent 4100 ExoScan handheld FTIR

The Agilent 4100 ExoScan is a one module, 2.95 kg (6.5 lb) handheld system that is as versatile as it is rugged. With interchangeable sampling accessories, all of which can be changed in seconds without realignment, it is ideal for the analysis of surfaces, coatings, films and composites, as well as the analysis of bulk materials including powders and granules.



Agilent 4200 FlexScan handheld FTIR

The Agilent 4200 FlexScan handheld FTIR is a dual module system suitable for repetitive infrared analyses over a large area, or numerous measurements over a large object. It is designed for dedicated field applications and has a fixed sampling interface.



Agilent 4500 Series portable FTIR analyzers

The rugged and easy-to-use Agilent 4500 Series portable FTIR analyzers support at-site analysis of incoming materials and outgoing finished products in the chemical, petrochemical, food, and polymer industries. The series is ideal for proactive maintenance programs of high value equipment and machinery.



Agilent 5500 Series FTIR analyzers

The Agilent 5500 Series FTIR is designed for one purpose – to provide you with great results rapidly and reliably, day after day. Offering robust performance in a compact design, the Agilent 5500 Series FTIR is available in dedicated configurations.



Agilent Cary 600 Series FTIR spectrometers

The Agilent Cary 600 Series provides unrivaled analytical performance under real-world conditions, offering the highest performance for researchers in fields such as polymers/materials, chemicals, pharmaceuticals, biotechnology, and academia.



Agilent Cary 610/620 Series FTIR microscopes

The Agilent Cary 610/620 FTIR microscopes are the highest performing, most versatile FTIR microscopes and spectrochemical imaging systems available. The systems are used in conjunction with the Agilent Cary 600 Series FTIR.



Our catalog of new applications is ever growing.

To learn about the latest, contact your local Agilent Representative or visit us at:

www.agilent.com/chem

Find out how Agilent's Molecular Spectroscopy Solutions can deliver the performance, accuracy and flexibility you need.

Learn more:

www.agilent.com/chem

Buy online:

www.agilent.com/chem/store

Find an Agilent customer center in your country:

www.agilent.com/chem/contactus

U.S. and Canada

1-800-227-9770

agilent_inquiries@agilent.com

Europe

info_agilent@agilent.com

Asia Pacific

inquiry_lsca@agilent.com

Trust Agilent to keep your lab running — at peak productivity

Agilent's Advantage Service protects your investment in Agilent instruments and connects you with our global network of experienced professionals who can help you get the highest performance from every system in your lab. Count on us for the services you need at every stage of your instrument's lifecycle — from installation and upgrade to operation, maintenance and repair.

For customers who require full system validation, Agilent offers complete qualification services (Installation and Operational Qualification) for the Agilent Cary 630 FTIR.

And if ever your Agilent instrument requires service while covered by an Agilent service agreement, we guarantee repair or we will replace your instrument for free. No other manufacturer or service provider offers this level of commitment.

Further information

For full details of the Agilent range of molecular spectroscopy products, ask for a brochure or visit our website at **www.agilent.com/chem/molecularspec**

