Anton Paar

Confidence Meets Efficiency in **Spectroscopy**

AP Spectroscopy Suite

Scan.
Match.
Result.

Quick identification and verification of substances using FTIR and Raman spectroscopy with Anton Paar's Spectroscopy Suite

Anton Paar's Spectroscopy Suite software, used in combination with the instruments Cora 5001 and Lyza 7000/3000, is designed for incoming goods inspection and R&D in both regulated and non-regulated environments.

You need results, not spectra. Our system takes the complicated spectroscopy aspects out of daily measuring routines by providing predefined workflows and settings to speed up measurements and achieve consistent and high-quality results.

Both FTIR and Raman molecular spectroscopy methods can be controlled by the same software. You can use the AP Spectroscopy Suite individually as Raman analysis software or FTIR analysis software, or combine both instruments for a powerful analytical workstation.

Your challenges:

- ✓ I want to help my team members succeed by streamlining their daily spectroscopy tasks
- ✓ I need a system that prevents errors so I don't have to fix them afterward
- ✓ I must always be able to demonstrate that the system adheres to 21 CFR Part 11 and EU GMP Annex 11
- ✓ I need to check 100 % of the supplied goods so that no incorrect or contaminated raw materials are used in production, which could ruin the entire batch
- ✓ It's my job to increase the efficiency of the QC laboratory, and I'm looking for a quick test to verify chemical composition

Cora 5001 and Lyza 7000/3000 with Anton Paar's Spectroscopy Suite – the solution to your needs.

FIND OUT MORE

www.anton-paar.com/apb-spectroscopy-suite

The Solution to **Optimize QC**

Simple – fast – audit-proof

The best match of hardware and software: Remove complexity and improve performance in your QC lab.

Professional version
Premium version

Sample verification in seconds with tailored reference libraries
↓

Additional Premium version features for users in regulated environments

Lifetime data integrity

100 % traceable audit trail with search function

Configurable 2- and 3-step secure electronic signing

Choose your regulatory compliance level
Don't compromise on data security and user rights management. Both AP Spectroscopy Suite variants – Premium and Professional – store all data in a secure SQL database that remains unchanged through updates, keeping your investment secure.

Choosing AP Spectroscopy Suite Premium ensures full compliance in the pharmaceutical regulatory environment. All actions and data are both traceable and searchable – helping you to smoothly pass audit trails – and all measurements, methods, and libraries undergo a review and approval process using electronic signatures. Only approved elements can be used for future analysis.

Sample verification and identification – the daily routine
Individual configuration ensures only approved methods can be followed, making the day-to-day running of samples safe and efficient. No measuring settings can be altered by unauthorized users.

Guided workflows ensure optimal conditions and eliminate human influence on results. The system automatically compares the measured spectra with the reference spectra library prescribed in the method and gives a pass/fail answer.

A valid system suitability test is a prerequisite for starting a measurement, ensuring reliable and accurate results.

Method development and reference library generation
All sample-specific measuring settings and reference data are defined by method, which makes it easy for everyday operators to achieve high-quality results even for complex spectroscopy tasks. Methods can only be created or changed by user groups with the corresponding rights.

Just like the methods, reference datasets can only be generated by users with the rights to do so. The process is guided and straightforward. Displaying multiple spectra assists in selecting the right reference datasets.

Avoiding Errors

The system's responsibility, not the user's job

High quality data ensured from the point of installation.

Access control

- → Choose from user management via active directory or locally managed user credentials
- → Local user management provides comprehensive password complexity settings, password expiry dates, and auto logoff after a customizable idle time

Electronic signing process[1)]

- → Choose from a 2- or 3-step signing process depending on your company policies
- → Available for measuring results, newly created methods and library entries, libraries themselves, and checks and adjustments

User group administration

- → User groups can be defined according to specific company standards
- → Privileges can be defined specific to a user group

Audit trail[1)]

- → Signing and commenting of audit trail entries
- → Full-text search and filter functionality via data explorer

Analytical Instrument and System Qualification Package[1), 2)]

- → The Analytical Instrument and System Qualification Package (AISQ+) qualifies your instrument three times quicker. Enjoy a complete package of DQ/IQ/OQ/PQ, a risk analysis, and a 21 CFR Part 11 checklist.

Data management

- → Full-text search and filter functionality via data explorer
- → Versioning and data rentention matching your requirements
- → Update-proof SQL database
- → Integration with lab execution system AP Connect

Export, backup, and restore

- → Back up and restore functionality
- → Full SQL backup possible
- → Export of results incl. spectra (.pdf/.csv)

Traceability and data reprocessing

- → Versioned methods and libraries provide full traceability: For each measurement result, the version of method and library can clearly be traced back
- → Reprocessing of original measuring data creates a new entry in the results database

Libraries

- → Factory libraries measured by our specialists for high-quality results
- → S.T. Japan library available with up to 76,000 unique spectra
- → User-generated libraries specific to user samples

1) Available with AP Spectroscopy Suite Premium
2) For Cora 5001 785 nm and Lyza 7000/3000

Cora 5001 Series:
Make Your Choice

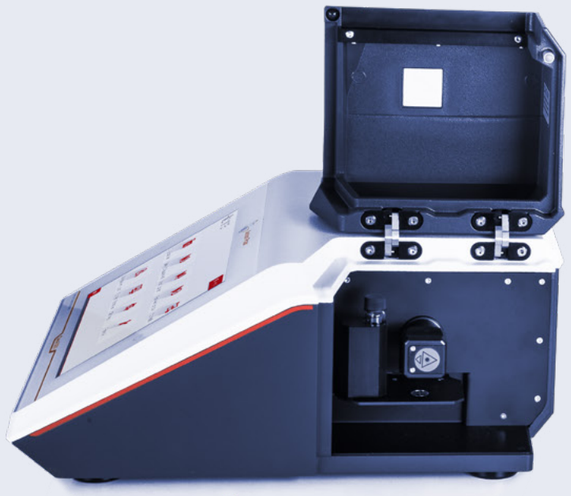
Small and easy to transport
Cora 5001 is ready for use in the field, in your lab, and in the warehouse. If you need to analyze substances at their location, choose the battery option and measure on-site.

Discover the benefits of Raman technology with Cora 5001

- ✓ Results within seconds – 300 times faster than alternative methods
- ✓ Non-invasive and non-destructive
- ✓ Save time: no sample preparation needed
- ✓ No influence of water on the results
- ✓ In situ, live reaction monitoring
- ✓ Safe measurement through packaging

Cora 5001 Direct

- → **Reproducible conditions for your sample:** Cora 5001 Direct analyzes samples in a closed measuring compartment. No sample preparation is required. Holders for tablets, vials, and more can be placed precisely onto the motorized sample stage.
- → **Laser Class 1 for maximum user safety:** The Cora 5001 Direct instruments are certified as laser Class 1. There is no need for laser safety measures – the instrument is as safe as a DVD player.
- → **Autofocus – gets the strongest signal:** Manual focusing on thin or opaque samples with a weak Raman signal can be tricky. Cora's autofocus finds the spot with the best Raman signal within seconds.



Cora 5001 Fiber

- → **Flexible probe for measurements outside the instrument:** With Cora 5001 Fiber, the sample no longer needs to be taken to the instrument. You can analyze substances regardless of the sample's shape or size. The Fiber probe can even be used in situ.
- → **Safeguarded, one-handed measurements:** Cora 5001's Fiber probes are the safe solution for one-handed measurements. Thanks to the remote trigger on the handle and redundant laser safety features, the user is securely in control of the process each and every second.

FIND OUT MORE

www.anton-paar.com/apb-spectroscopy-cora

Accessories
for Efficient Work

Whatever substances you measure, in whatever form, these accessories enable analysis in just a few seconds

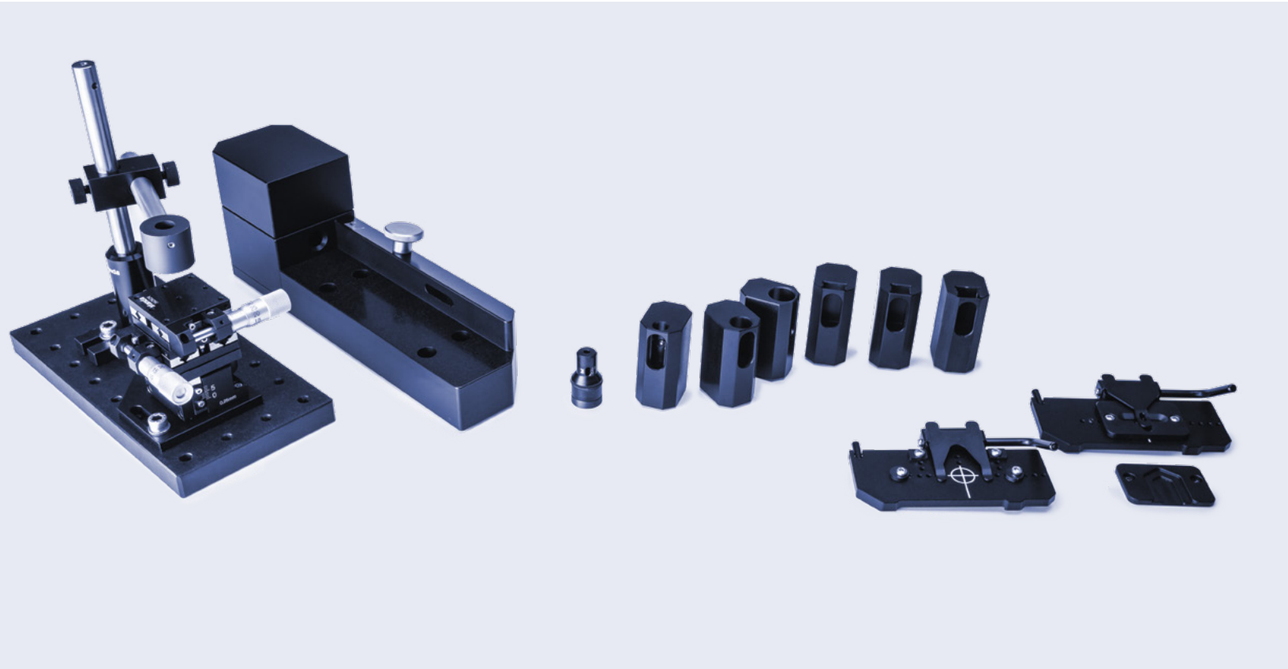
Cora 5001 Direct

- → **Use your own vials:** We have the right holder for you – use your own round or rectangular vials or cuvettes of different sizes.
- → **For pills or other small solid samples:** The pill holder positions small solid samples like pills and tablets.
- → **For foils and microscope slides:** Thin samples like foils and slides can be inserted easily with the substrate holder.

All sample holders are equipped with magnets that snap into place precisely and allow reproducible analysis without refocusing.

Cora 5001 Fiber

- → **Fixed focus adjustment for your Fiber:** The docking station holds the Fiber probe and vials in place for reliable and reproducible results.
- → **Accurate adjustment at the tip of the Fiber probe:** If you need to analyze substances with a defined distance to the probe, use the adjustable spacer tip. This ensures consistent focusing and optimum signal acquisition.
- → **The ultimate solution for addressing any sample:** The xyz stage positions the Fiber probe precisely where needed. Micrometer screws for alignment in all three dimensions enable on-the-spot measurements even with samples of small size or a high level of inhomogeneity.



Cora 5001

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OPTICAL SPECIFICATIONS	
Excitation wavelength	785 nm
Spectral range	100 cm^{-1} to 2,300 cm^{-1}
Resolution (according to ASTM E2529)	6 cm^{-1} to 9 cm^{-1}
Laser power	0 mW to 450 mW, adjustable
Spectrograph	f/2; Transmission Volume Phase Grating (VPG)
Integration time	0.005 s to 600 s
Wavelength calibration	Automatic via software
Detector array	2,048 px CCD
Laser class	1 for Direct model; 3B for Fiber model

PHYSICAL SPECIFICATIONS	
Dimensions (D x W x H)	355 mm x 384 mm x 168 mm (14.0 in x 15.1 in x 6.6 in)
Weight	9.8 kg
Operating temperature range	10 °C to 35 °C (non-condensing)
Fiber probe dimensions	Cable length: 1.50 m
Battery (optional)	Lithium-ion
Battery run time	>1.5 h
Power supply input	Inline power supply input: 115/230 V AC, 50/60 Hz Car power adapter input: 9 V to 32 V DC
Power consumption	Inline power supply input: max. 100 VA

ADDITIONAL SPECIFICATIONS	
Display	10" touchscreen
Data ports	4 x USB 2.0, 1 x Ethernet, 1 x CAN out, and 1 x USB to PC
Data export formats	.csv, .pdf, .spc
Internal storage	8 GB
Wireless connectivity	WiFi stick (optional)
Spectral libraries	Factory library, user-built, third-party options
Security	User roles with customizable permissions, user password logins

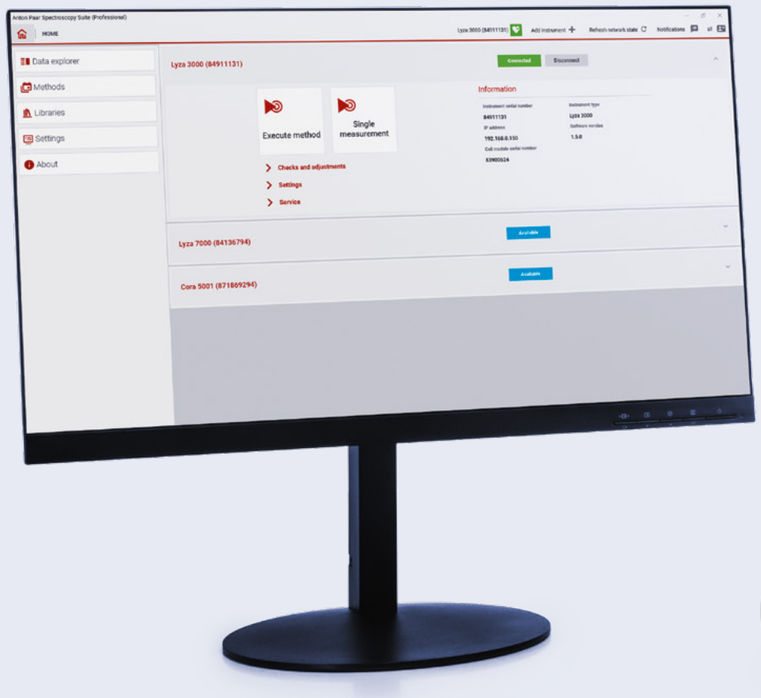
Lyza Series:
Transforming FTIR Spectroscopy

Elevating spectroscopy, simplifying science
The Lyza series FTIR spectrometers transform industry standards: Guided workflows – combining measurement, processing, and spectral analysis in an automated method – allow users with minimal experience to perform QC measurements in just three steps, for a quick pass/fail result.

Premium optical components ensure consistently high performance and longevity for years to come.

Discover the benefits of FTIR technology with Lyza 7000/3000

- ✓ Fast pass/fail spectral analysis helps optimize quality and maximize efficiency
- ✓ Modular cell concept for hundreds of sample types
- ✓ Check incoming goods, identify unknown substances, and ensure the quality of your final product
- ✓ Data management system AP Connect brings your lab data together, boosting productivity



Lyza Series and AP Spectroscopy Suite

- → Simplifies complex measurements with user-friendly interfaces and automated processes, making spectroscopy accessible to all proficiency levels
- → Tailored for detailed and accurate analysis across a broad spectrum of samples
- → Offers seamless integration for a streamlined workflow, from data acquisition to analysis
- → Ensure strict adherence to pharmaceutical standards and regulations with AP Spectroscopy Suite Premium
- → Additionally, when combined with our lab execution software AP Connect, data from all your lab instruments is streamlined and retrievable from one spot

FIND OUT MORE

www.anton-paar.com/apb-spectroscopy-lyza

Lyza Series:
Remarkably Powerful

Pharmacopoeia check*
Fully automated Performance Verification check according to Pharmacopoeias (EP, USP, IP, JP, CP) with the internal traceable polystyrene film.

Reliable
The automatic calibration ensures optimal performance with every cell and the permanently aligned cube-corner interferometer prevents alignment errors.

Modular
The exchangeable cell module allows for quick and easy measurement cell exchange. The instrument auto-detects the module and loads your calibration.

Hermetically sealed
Lyza 7000/3000's spectrometer core is hermetically sealed and desiccated to protect all optical components and ensure stable conditions.

Performance
Equipped with a high-performance pyroelectric DLaTGS detector, the instrument delivers an exceptional signal-to-noise-ratio of 55,000:1.

Cost-efficient
The innovative "Eco Mode" not only helps you save energy but also ensures the longevity of core components in your system like the IR source.

** Available with AP Spectroscopy Suite Premium*

Reliable.
Compliant.
Qualified.

FIND OUT MORE

www.anton-paar.com/service

Our well-trained and certified technicians are ready to keep your instrument running smoothly.

Maximum uptime | **Warranty program** | **Short response times** | **A global service network**

	Lyza 3000 ↓	**Lyza 7000** ↓
TECHNICAL SPECIFICATIONS		
Detector	Pyroelectric DLaTGS detector	
Optics	Hermetically sealed aluminum casing with gold-coated mirrors, KBr windows and beamsplitter	
Signal-to-noise ratio	55,000:1 (1 min, 8 cm^{-1}, 2,100 cm^{-1} to 2,200 cm^{-1})	
Spectral range	350 cm^{-1} to 7,500 cm^{-1}	
Spectral resolution	1.4 cm^{-1} to 16 cm^{-1}	
Wavenumber accuracy	<0.05 cm^{-1} @ 900 cm^{-1} to 3,000 cm^{-1}	
Wavenumber precision	Repeatability <0.0005 cm^{-1} at 2,000 cm^{-1} (standard deviation of 10 repeated measurements)	
Measurement time	<30 seconds	
Laser type	Single mode Vertical Cavity Surface Emitting Laser (VCSEL)	
Laser class	Class 1, enclosed hermetically	
IR Source	SiC composite	
Interferometer	Permanently aligned cube corner interferometer	
Desiccant	Molecular sieve with color indicator, user-replaceable	
Operating temperature range	10 °C to 30 °C (non-condensing)	
Instrument dimensions	363 mm x 315 mm x 204 mm (D x W x H)	365 mm x 315 mm x 382 mm (D x W x H)
Cell compartment width	152 mm	
Weight	11.7 kg	12.8 kg
Power supply	DC 24V, 40 W	
Communication interfaces	4 x USB 2.0 / CAN / Ethernet	
Data export formats	.csv, .pdf, .spc	
Data management	AP Connect	
Display	No touchscreen	10.1", PCAP-Touchscreen, multi-touch
Spectral libraries	Factory library, user-built, third-party options	
Regulatory compliance	21 CFR Part 11 including installation, operation qualification and performance qualification (DQ/IQ/OQ/PQ)*	

** Available with AP Spectroscopy Suite Premium*

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