



Precision performance for advanced analysis

Thermo Scientific Evolution 350
UV-Vis Spectrophotometer

Reliable, high-performance UV-Visible spectroscopy

For over 60 years, customers in world-renowned research, QA/QC and educational laboratories have relied on the high-performance and exceptional value provided by Thermo Scientific™ UV-Visible spectrophotometers. The Thermo Scientific™ Evolution™ 350 UV-Visible Spectrophotometer delivers the precision you need with the operational flexibility you desire for advanced applications. Thermo Scientific solutions are designed to simplify the sophisticated, moving you from samples to answers fast.

Life Science

Industrial QA/QC

Food & Beverage

Environmental

Pharmaceuticals

Chemicals

Materials Science

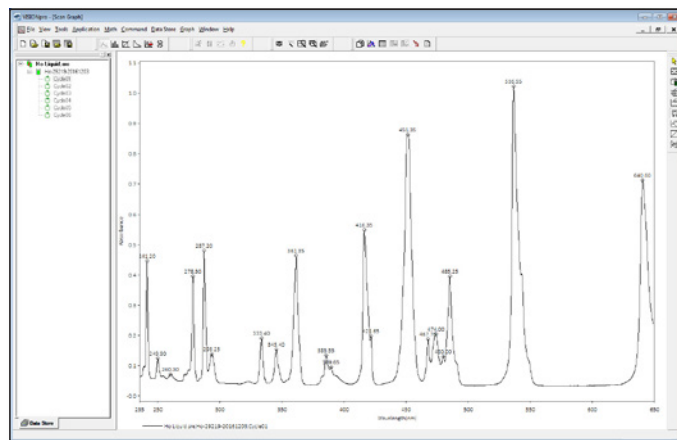
Academic



Reliable precision

Designed for laboratories requiring higher performance, the Evolution 350 UV-Vis spectrophotometer's double beam optical design delivers outstanding reliability, precision performance and minimal downtime.

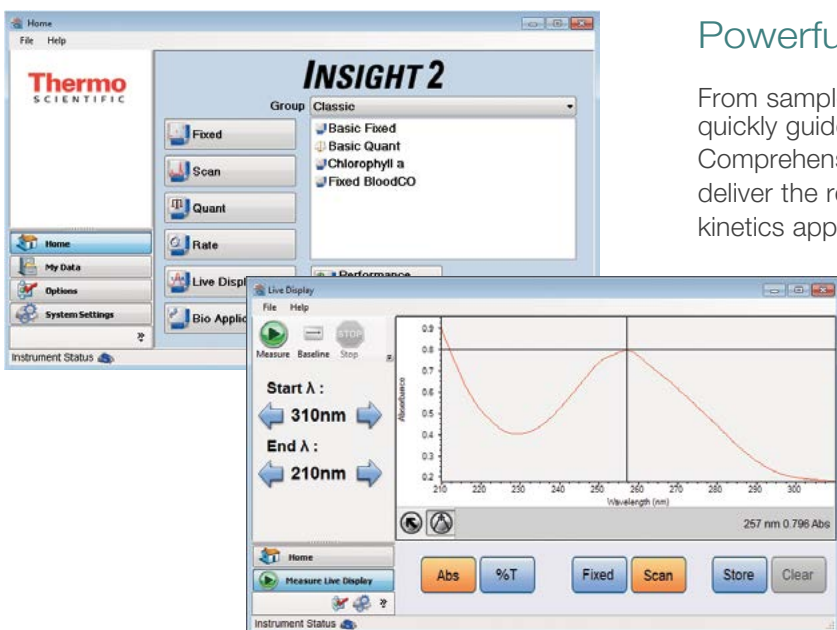
- Eliminate warm-up time and take advantage of instant-on xenon flash lamp that is guaranteed for three years of continuous use
- Enjoy long-term stability during data acquisition with double-beam optics and a reference position detector for monitoring control samples
- Optimize performance for advanced testing requirements and peak resolution capabilities with selectable bandwidths of 0.5, 1.0, 1.5, 2.0 and 4.0 nm
- Ensure continued accuracy of your data with an optional Calibration Validation Carousel (CVC) for automated performance verification



Powerful software options

From sample to final report, Thermo Scientific™ INSIGHT™ software quickly guides you through each step of your analysis. Comprehensive tools for data collection, processing and reporting deliver the results you need for quantitative analysis, scanning and kinetics applications.

- Get answers faster using our Live Display Mode with walk-up simplicity for real-time single wavelength measurements or simplified scans for the identification of sample peaks
- Customize even complex methods with ease using our workflow oriented application modules
- Enforce data security with optional INSIGHT Security software tools to assist you in achieving 21 CFR Part 11 compliance in your pharmaceutical laboratory
- Increase efficiency in high-throughput environments with optional INSIGHT Auto software for seamless integration of supported autosamplers



Expansive sampling options

A complete line of Thermo Scientific spectrophotometer accessories, extra large sample compartment and parallel beam design offers increased flexibility for unique accessories and advanced applications.

- Speed up your analysis with fully integrated Thermo Scientific™ Smart Accessories featuring cable-free snap-in designs for convenience and consistency
- Eliminate manual set-up requirements with auto recognition and seamless software integration of sippers, cell changers and autosampler accessories
- Take advantage of the Evolution 350's wide beam separation and extra large sample compartment to enable expanded accessory support for unique applications including a 7 × 7 dual cell changer configuration, Praying Mantis™ and compatible third party accessories



Automated cell changers make your laboratory more efficient.

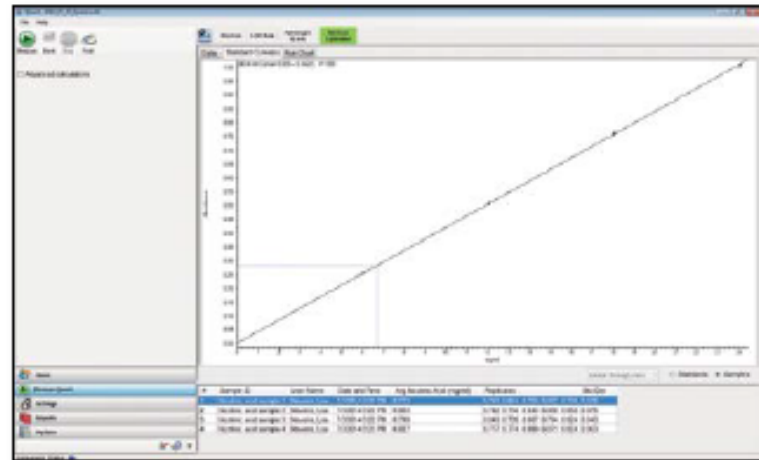
Tool for pharmaceuticals and high-value QA/QC testing

Quantitative analysis made simple

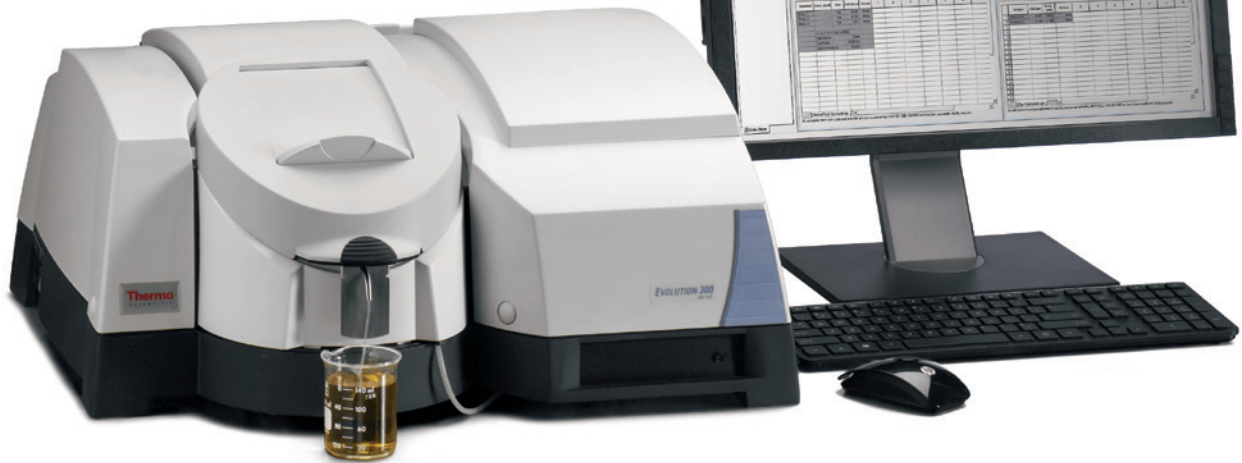
Reliable results are an essential component of quality control analyses. From simple, single-standard comparisons to standard curves based on peak area, we have the tools to get the answers you need every time.

- Choose to perform your analysis in fixed or scan mode
- Select a curve fit and standard averaging as desired
- Set minimum correlation coefficients or use concentration limits to define the requirements for your standards and samples

After measurements are complete, a run chart neatly displays the data and error bars, indicating whether or not each sample measurement falls within the defined concentration range.



Automated data processing and visual cues accelerate result analysis



System Performance Verification Report

Company name: Thermo Scientific
 Test Name: Wavelength Reproducibility (Holloway 6516)
 Operator: Bruce, Claire
 Date: Thursday, April 11, 2013 8:51:09 AM (GMT-05:00)
 Instrument: Evolution 300
 Serial number: CN6_00418
 CMC Serial number: E2P_31713
 Accessory base serial number: B0F133962

Measurement Description	High Limit	Low Limit	Measured	Result
Wavelength of 261.51 nm (nm)	261.51	261.51	261.52	Pass
Wavelength of 276.63 nm (nm)	276.63	276.63	276.62	Pass
Wavelength of 311.63 nm (nm)	311.63	311.63	311.62	Pass
Wavelength of 361.51 nm (nm)	361.51	361.51	361.50	Pass
Wavelength of 401.50 nm (nm)	401.50	401.50	401.50	Pass
Wavelength of 451.51 nm (nm)	451.51	451.51	451.51	Pass

Company name: Thermo Scientific
 Test Name: Wavelength Reproducibility (Holloway 6516)
 Operator: Bruce, Claire
 Date: Thursday, April 11, 2013 8:50:30 AM (GMT-05:00)
 Instrument: Evolution 300
 Serial number: CN6_00418
 CMC Serial number: E2P_31713
 Accessory base serial number: B0F133962

Measurement Description	High Limit	Low Limit	Measured	Result
Standard deviation of 361 nm peak	0.10	0.00	0.06	Pass

Company name: Thermo Scientific
 Test Name: Wavelength Reproducibility (Holloway 6516)
 Operator: Bruce, Claire
 Date: Thursday, April 11, 2013 10:03:46 AM (GMT-05:00)
 Instrument: Evolution 300
 Serial number: CN6_00418
 CMC Serial number: E2P_31713
 Accessory base serial number: B0F133962

Measurement Description	High Limit	Low Limit	Measured	Result
Ratio: Max/Min (261 nm/261 nm)	1.00	1.00	2.10	Pass

Company name: Thermo Scientific
 Test Name: Wavelength Reproducibility (Holloway 6516)
 Operator: Bruce, Claire
 Date: Thursday, April 11, 2013 10:03:46 AM (GMT-05:00)
 Instrument: Evolution 300
 Serial number: CN6_00418
 CMC Serial number: E2P_31713
 Accessory base serial number: B0F133962

Measurement Description	High Limit	Low Limit	Measured	Result
Ratio: Max/Min (311 nm/311 nm)	0.99	0.99	0.99	Pass

Company name: Thermo Scientific
 Test Name: Wavelength Reproducibility (Holloway 6516)
 Operator: Bruce, Claire
 Date: Thursday, April 11, 2013 10:03:46 AM (GMT-05:00)
 Instrument: Evolution 300
 Serial number: CN6_00418
 CMC Serial number: E2P_31713
 Accessory base serial number: B0F133962

Multiple results (this included in report)

Page 1 of 1

Automated performance verification

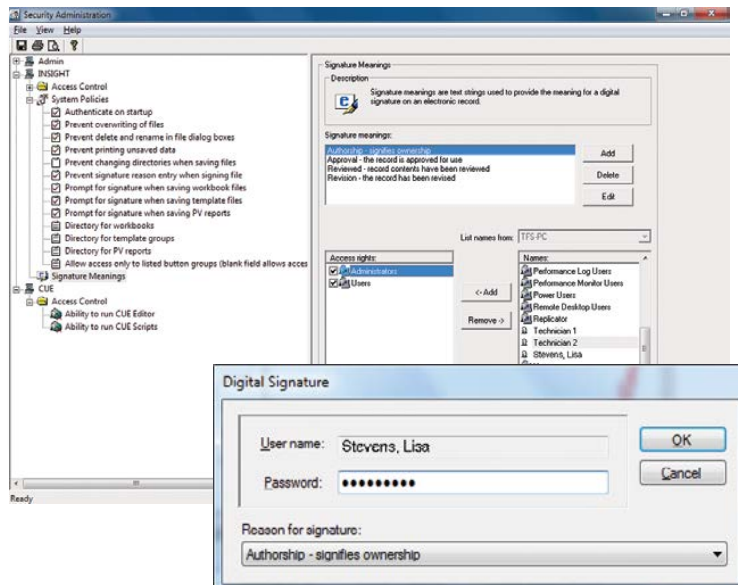
Ensure the accuracy and reliability of QA/QC data while improving the efficiency of your laboratory with automated performance verification.

- Save your analyst's time, improving the productivity of your laboratory, with automated PV testing
- Eliminate transcription activities and return results that are ready for sign-off when tests are complete
- Ensure compliance to industry guidelines and regulations for industrial and pharmaceutical laboratories with traceable standards and your choice of configuration options

Reliable data security for your electronic records

If your laboratory requires 21 CFR Part 11 compliance, INSIGHT Security software is here to make your life easier. Using the same easy-to-use interface, INSIGHT Security software combines security and data integrity assurance with the versatility required for your multi-user laboratory.

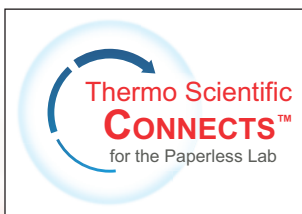
- Achieve clear traceability with sample history and electronic signature details that are stored directly within your protected data files
- Ensure that any changes to files associated with INSIGHT Security are monitored and logged, even when the software is not running, with software that is seamlessly integrated with Microsoft® Windows® security features
- Manage your users' access and privileges quickly and easily from one central server location with our cross-platform Thermo Scientific Security Administration (TSA) software



Complete IQ/OQ Validation package

Thermo Scientific Validator packages provide support for system qualification and validation activities for instruments, software and accessories. All of the documentation and reference materials needed to facilitate compliance of your Thermo Scientific spectrophotometer system with the requirements of FDA, GxP, ISO 9001:2008 and

ISPE 2001 guidelines and regulations are included for your convenience. Validator packages streamline Installation Qualification (IQ), Operational Qualification (OQ) and assist in Performance Qualification (PQ) procedures and development for simple and efficient use.



Integrated informatics solutions

Laboratory informatics are a critical part of any laboratory, facilitating end-to-end traceability of samples and associated laboratory processes, providing a central repository for data and test results and ensuring regulatory compliance. Thermo Scientific Lab Information Management Systems (LIMS) deliver a complete informatics solution for method execution, laboratory and data management.

In combination with our Laboratory Execution System (LES), Scientific Data Management System (SDMS) and Integration Manager (IM), Thermo Scientific LIMS deliver the most comprehensive paperless lab solution available today. Now lab managers and scientists across all industries can achieve full instrument integration, manage methods and workflow, retrieve and archive any kind of raw scientific data, and export results across the organization.



Time-course and kinetics studies

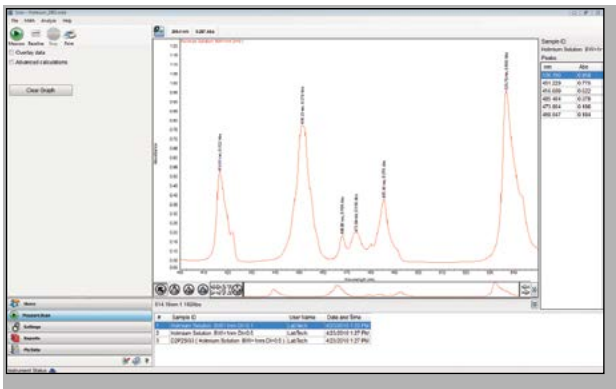
When biochemical studies get complicated, the Evolution 350 spectrophotometer with its wide range of accessories and extensive software options gives you the flexibility you need for more advanced experimentation.

- Choose from a comprehensive set of data fitting and analysis features including linear search, best fit and built-in equation options. Further customize your analysis with user-defined equations.
- Employ up to seven active reference positions with a 7 × 7 dual rotary cell changer configuration for complex studies requiring multiple reference samples
- Analyze fast reactions that take place in milliseconds to seconds with a Rapid Mix accessory (image to the right) featuring automatic triggering and a dead time of only 8 ms



Versatility for materials research

From mirrors to powders, you can take advantage of the Evolution 350 spectrophotometer's precision performance, large sample compartment and flexible software options to make light work of your materials research. A selectable bandwidth enables you to optimize resolution versus energy throughput to match your application needs.



Full-spectrum data and customizable graphical displays deliver greater clarity for complex problems

Versatile spectral analysis

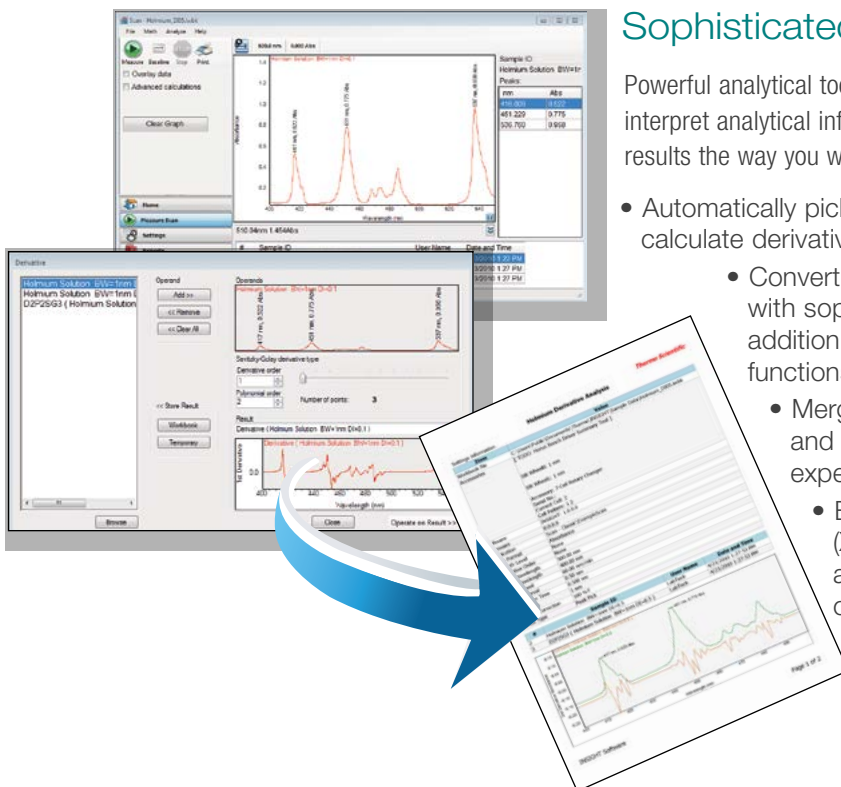
Full spectrum analysis provides additional insight into your samples to aid in identification and troubleshooting activities. The Evolution 350 spectrophotometers with INSIGHT software allow you to analyze spectral data your way.

- Find up to 100 peaks and valleys automatically and sort them by height or location or manually choose them post-analysis
- Calculate the area under your peak or use value level crossing features to solve complex problems
- Eliminate manual data manipulation requirements with automated, user defined calculations and a comprehensive selection of post-processing math functions

Sophisticated data processing options

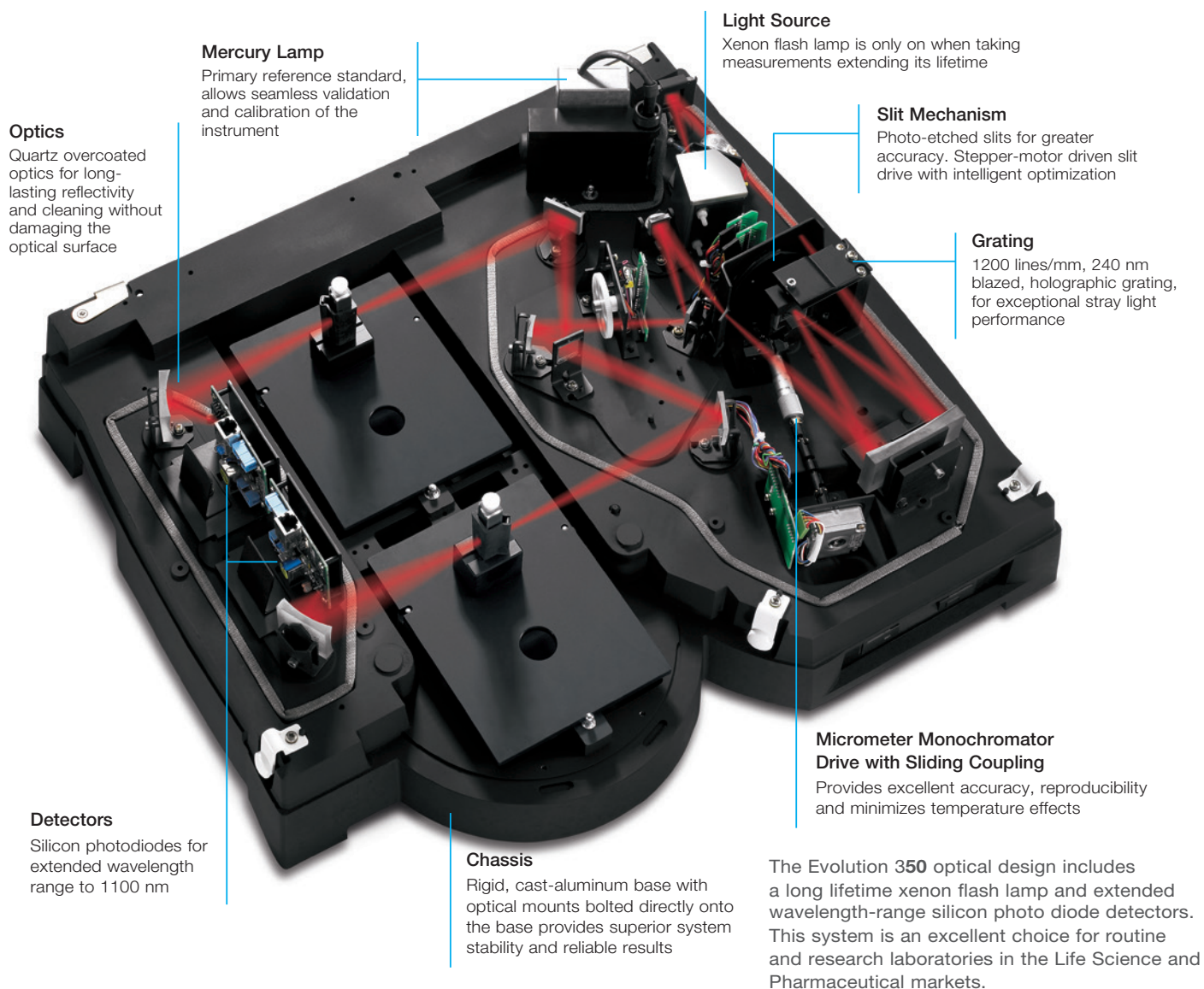
Powerful analytical tools embedded in INSIGHT software empower users to interpret analytical information quickly. Special display options let you view results the way you want for more effective data analysis and interpretation.

- Automatically pick peaks and valleys, apply smoothing or calculate derivatives as sample data is collected
 - Convert Data into the format you need post-analysis with sophisticated math features, including spectral addition and subtraction, ratios and normalizing functions
 - Merge data sets into a single workbook to quickly and conveniently compare data from multiple experiments with our Merge Workbooks feature
 - Export spectral or result data in a portable format (XML, CSV, or TSV) or e-mail it to a chosen account for further off-line data processing and compatibility with other software programs



Double-beam optical design for reliable results

The Evolution 350 spectrophotometer incorporates a high-performance optical design, versatile INSIGHT software packages, and the highest quality accessories for the most demanding applications.



The xenon lamp—an economical solution for your laboratory

The xenon flash lamp in the Evolution 350 spectrophotometer is on only when collecting a measurement. Providing excellent performance over the entire wavelength range of 190–1100 nm, the intense light of the xenon lamp in the UV region of the spectrum delivers added sensitivity for life science, environmental, and organic chemistry applications. Additional benefits of the xenon lamp include:

- Instant measurements with **no warm-up time required**
- **Eliminates the effort and down-time** associated with re-qualification of a conventional instrument after changing the lamps
- Seven or more years of **maintenance-free operation** and a guarantee for three years of continuous use
- **Minimized exposure of samples to UV effects** by powering on only during measurements

Smart Accessories for enhanced productivity



The Evolution 350 UV-Vis spectrophotometer supports Smart Accessories with auto-intelligence. All configurations allow hot-swapping of powered accessories and automatically recognize and initialize each accessory upon installation. Snap accessory into place, and the appropriate software menu for that accessory appears on the screen. Unused accessory software menus are hidden, eliminating possible confusion.

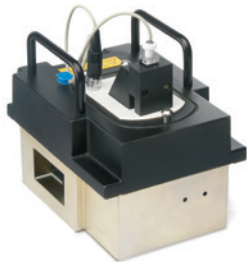
Kinematic mounts allow easy interchange of accessories and ensure reproducible alignment each time reflectance accessories, such as the Praying Mantis, are removed and re-installed.



Smart Thermostatted Rotary 7-Cell Changer



Smart Sipper Accessory



Smart Peltier Thermostatted Single Cell Holder



Smart Thermostatted Linear 8-Cell Changer



8-Cell Peltier System



Single Cell Peltier System



Temperature Probe

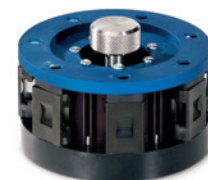
Temperature probe for Smart Accessories—monitor the temperature inside the cuvette from within INSGHT software



Thermostatted Single Cuvette Holder



RX2000 Rapid Mix Accessory



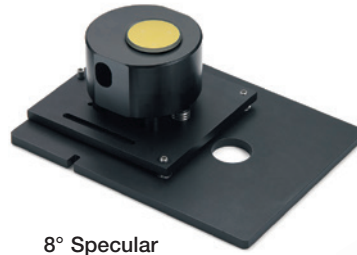
Smart Calibration Validation Carousel (CVC)



VeeMAX™ Variable Angle 30°–80° Specular Reflectance Accessory



15°, 20°, 30°, 45°, and 60° Specular Reflectance Accessories



8° Specular Reflectance Accessory



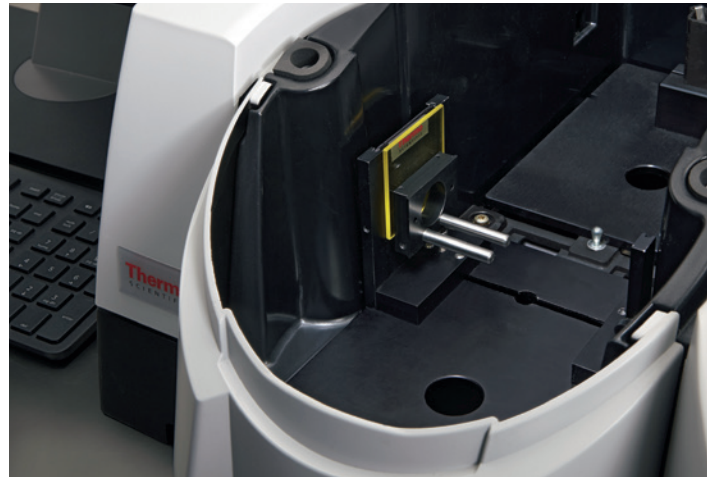
Praying Mantis Accessory



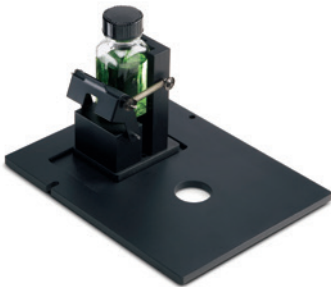
Test Tube and Vial Holder



Long Pathlength Rectangular Cell Holder



The Solid Sample Slide Holder positions accessories supplied on standard 2 × 3-inch slides. Instrument shown with a Universal Sample Holder and optional second slide holder.

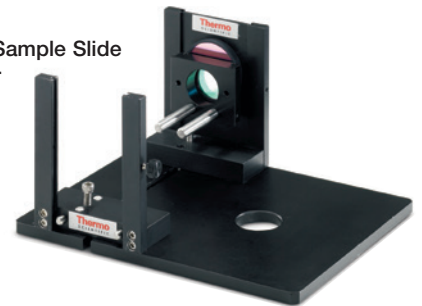


1 Inch Square Vial Holder



Combination Cuvette and Test Tube Holder

Solid Sample Slide Holder



Adjustable Microcell Holder



CETAC® ASX-280 Autosampler

Laboratory solutions backed by worldwide service and support

Tap into our expertise throughout the life of your instrument. Thermo Fisher Scientific offers professional support through our worldwide network of highly trained and certified engineers. In many nations, Unity™ Lab Services, part of Thermo Fisher Scientific, offers direct support. Elsewhere, our partner companies' engineers receive the same factory training as our Unity engineers and stand ready to provide you with the same high level of service and support. Put our experts to work for you to provide the services you need from system installation and training to technical support. Ask your Thermo Scientific sales representative about available product support services designed to keep your instrument in peak operating condition.



Find out more at www.thermofisher.com/uv-vis