

lambda 25/35/45 UV/Vis systems



keep your analysis
flowing

speed and simplicity
keep the results flowing



Lambda™ 25/35/45 UV/Vis systems increase productivity by mimicking the QA workflow to generate high-quality results the first time, every time. And that's exactly what you need in a busy laboratory when the pressure's on and it's your job to keep the results flowing. Lambda systems are easy to operate and deliver results you can trust with the minimum of operator training. With our complete range of Lambda systems it's easy to develop simple, robust methods and ensure they're followed without mistakes. The Lambda 25 is an ideal match for most routine UV/Vis applications and regulatory tests, giving fast and reliable results time after time. The variable bandwidth Lambda 35 offers the best solution for measurements on solids, pastes and powders, while the Lambda 45's pre-monochromator deals easily with light scattering samples. Whichever Lambda system you choose, your day-to-day UV/Vis analyses will be faster, simpler and more dependable than ever before.

Works the way you work

Your company's profits depend on fast analysis. And your laboratory has to keep pace with increasing regulations, without becoming a bottleneck. So UV WinLab™ software works the way you work, guiding you through a step-by-

step process that simplifies analysis from sample entry to report generation, eliminating costly mistakes and delivering rapid results. You can rely on our proven technology to deliver consistently high-quality results over the lifetime of the system, and you can confirm those results with our extensive suite of Instrument Performance Verification (IPV) tests. For FDA-regulated industries, the Enhanced Security™ (ES) version of UV WinLab integrates seamless 21 CFR Part 11 technical compliance without slowing you down.

Support when you want it, where you need it

An industry leader, PerkinElmer offers technical and service support in more than 125 countries and in a variety of ways—experience and knowledge, easy-to-purchase accessories and consumables, and thorough IQ/OQ and validation services. Through process improvement initiatives, like Six Sigma and our world-class PACE project management system, we're constantly introducing innovative products that meet your demands for productivity, reliability and ease of use. With our Lambda 25/35/45 systems, you'll be equipped to meet your toughest analytical challenges with confidence.

	Lambda 25	Lambda 35	Lambda 45
Range (nm)	190–1100		
Double-Beam Operation	Yes	Yes	Yes
Bandwidth (nm)	1 (fixed)	0.5–4 (variable)	0.5–4 (variable)
Pre-Monochromator	No	No	Yes
Modes of Operation	Scanning, Wavelength Program, Timedrive, Rate, Quant, Scanning Quant		
Applications	Routine UV/Vis testing Liquids analysis Pharmacopeia and regulatory tests	Routine UV/Vis testing Liquids analysis Solids, pastes and powder samples Regulatory tests requiring variable bandwidths	Routine UV/Vis testing Liquids analysis Solids, pastes and powder samples Regulatory tests requiring variable bandwidths Highly scattering samples

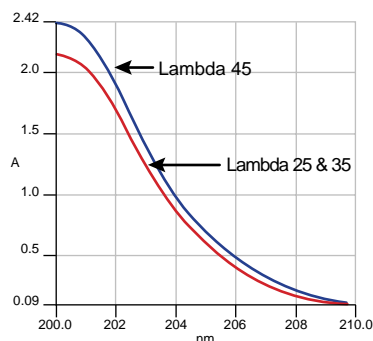


Fig. 1. Lambda systems exceed the pharmacopeia stray light test specification of an absorbance of $> 2.0A$ at 200 nm using a 1.2 w/v potassium chloride solution. The additional pre-monochromator in the Lambda 45 further reduces stray light compared to the Lambda 25 and 35.

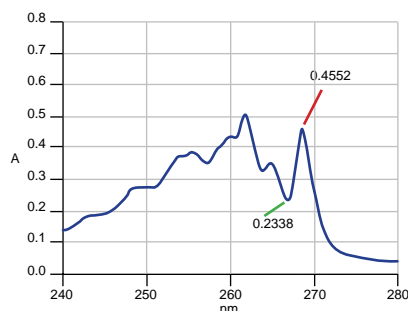


Fig. 2. Pharmacopeia resolution test using 0.02% w/v toluene in hexane at 1 nm slit width. Ratio of peak and trough near 269 nm and 266 nm > 1.9 vs the pass criterion of 1.5.

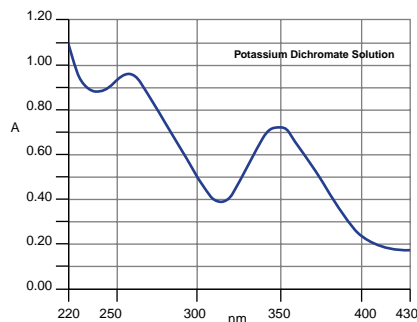


Fig. 3. Lambda systems easily pass the pharmacopeia absorbance accuracy test at 235 nm, 257 nm, 313 nm and 350 nm using 60.06 mg/l potassium dichromate solution.

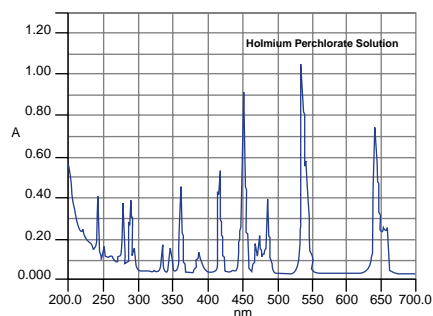


Fig. 4. Lambda systems exceed pharmacopeia and ASTM requirements for wavelength accuracy (NIST 260-140) using a 4 mg/ml solution of holmium perchlorate.

technology you can trust

With more than 10,000 units installed worldwide, our superior technology and build quality have proven themselves under the toughest conditions.

- True double-beam operation provides the best possible stability and allows references to be measured and corrected in real time.
- Sealed and quartz-coated high-throughput optics ensure consistent performance throughout the instrument's service life.
- Fast scanning with no compromise in analytical performance.
- Surpasses all regulatory body, quality system and pharmacopeia requirements.
- Prealigned deuterium and tungsten halogen lamps mean that when a lamp needs to be replaced there's no service call and no downtime.

Specified Value (nm)	Measured Value (nm)	Maximum Tolerance (nm)
241.15	241.10	± 1.0
361.50	361.10	± 1.0
536.30	536.40	± 3.0

seamless

validation and technical compliance

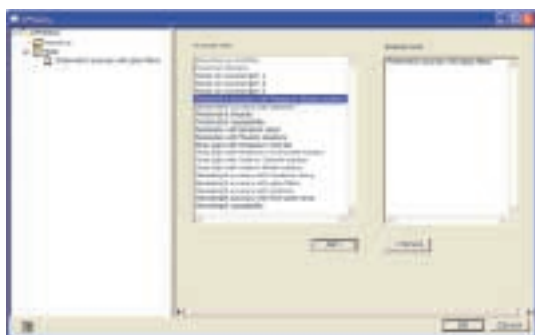


Fig. 5. UV WinLab features a comprehensive list of IPV tests.



Fig. 6. NVLAP accreditation for the certification of NTRMs PKI 1930 and PKI 930.

UV WinLab's integral performance tests give you the absolute confidence that your analyses and results will always meet the toughest internal and external quality standards.

- UV WinLab software includes a comprehensive suite of 20 Instrument Performance Verification (IPV) tests (Fig. 5) covering pharmacopeia, ASTM, GLP and ISO requirements.
- Specify the intervals between IPV tests.
- PerkinElmer is NVLAP-accredited to ISO 17025 for the certification of NIST-traceable reference materials (NTRMs) PKI 1930 and PKI 930 for the measurement of photometric accuracy (Fig. 6).

Compliance for FDA-regulated industries

As the leading supplier of UV/Vis systems to regulated industries, PerkinElmer is your partner for all stages on the route towards system validation. We provide a full suite of materials to help you complete a thorough validation plan according to the GAMP 4 guidelines.

- Detailed functional and system design specifications.
- Materials to simplify preparation of your

user requirements specification and supplier assessment questionnaire.

- Manufacturing test specification and certificates.
- Comprehensive IQ/OQ plan.
- Data processing validation and suitability CD.

UV WINLAB ENHANCED SECURITY

The Enhanced Security (ES) version of UV WinLab software integrates 21 CFR Part 11 technical compliance within the workflow user interface. Unlike other packages with “bolt-on” compliance modules, UV WinLab ES eliminates compliance loopholes without compromising productivity.

- Multilevel user permissions including administrator, method developer, analyst and reviewer.
- Password-protected access control includes password aging and expiry.
- Method-lock facility ensures that methods cannot be overwritten. All revisions are saved in a single location.
- Fully configurable e-signature points.
- Six-level database security protects valuable data.

UV WinLab software

works the way you work

UV WinLab software mimics the way you work, guiding you through method development, analysis, reporting and analysis of results in a series of simple steps—so it's easy to keep in touch with all the stages of your analysis.

To minimize mistakes and reduce your training burden, access control is built in to the software, locking methods so users see only what you want them to see. As a supervisor using the ES version of the software, you can decide who is allowed to create and approve methods, define report templates and review data. Unauthorized users cannot change method parameters or alter the format of a report.

UV WinLab archives all of your results and methods with a single mouse click in a secure, relational database. This transforms your data from a collection of individual results into valuable knowledge to help you make faster decisions. A range of intelligent querying options allows you to instantly answer questions from your customers and auditors and identify potential problems before they happen.

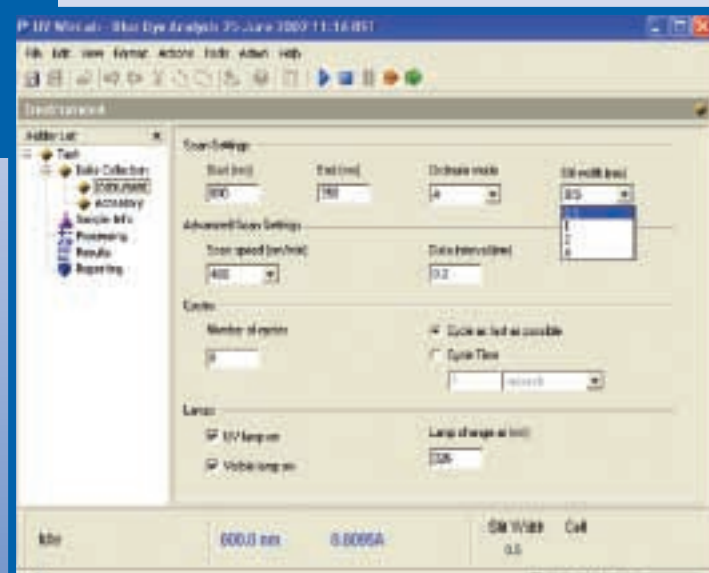


mimics the
QA workflow
for quick results

Simple Method Development

Scan, rate, quant, timedrive and wavelength program modes provide maximum application flexibility.

Method lock and password protection keep key parameters from being changed, preventing errors.

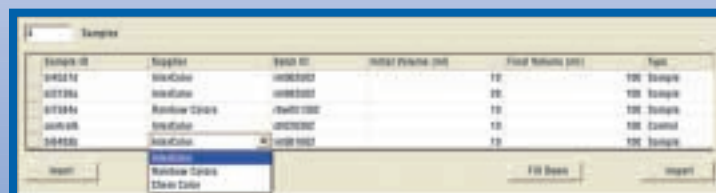


Data Collection Setup

Fast Analysis

Purpose-designed sample entry tables include information on sample preparation, sample description, supplier information and control limits.

Prompts for mandatory information in sample table standardize analyses.

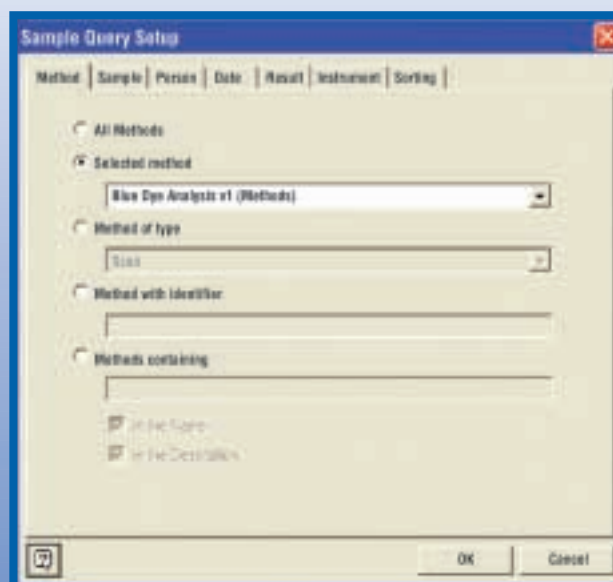


Sample Entry

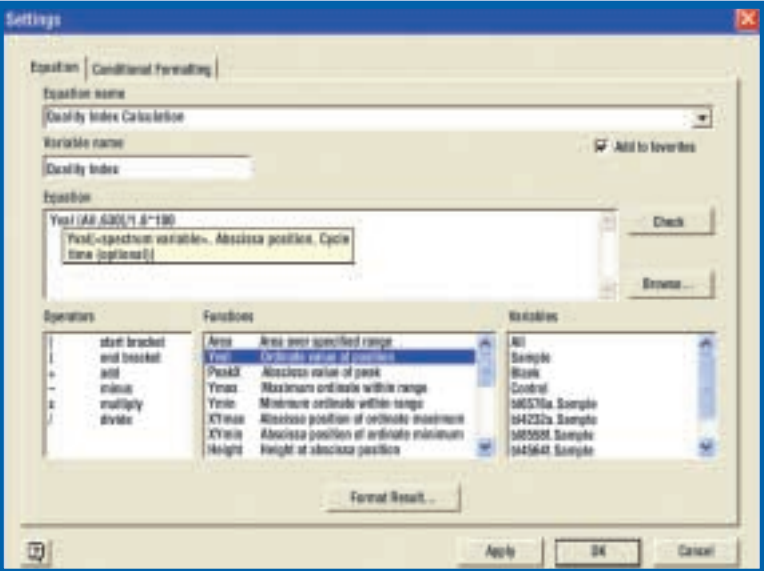
Easy Access To Your Data

Secure, encrypted storage of all results in one place aids GLP and makes reviewing results easy.

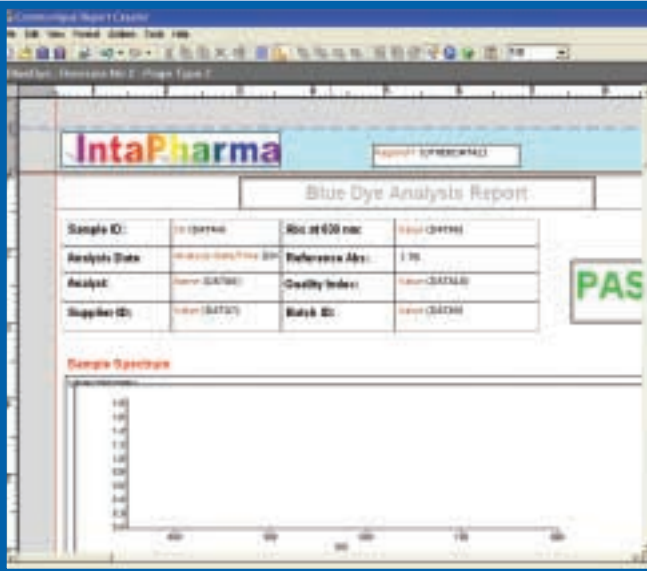
Intelligent querying allows searching on multiple table parameters.



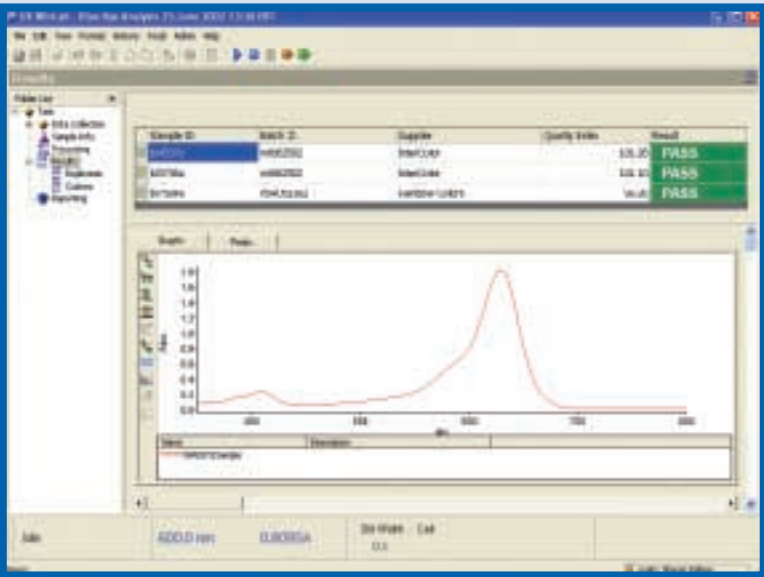
Database Query



Data Processing



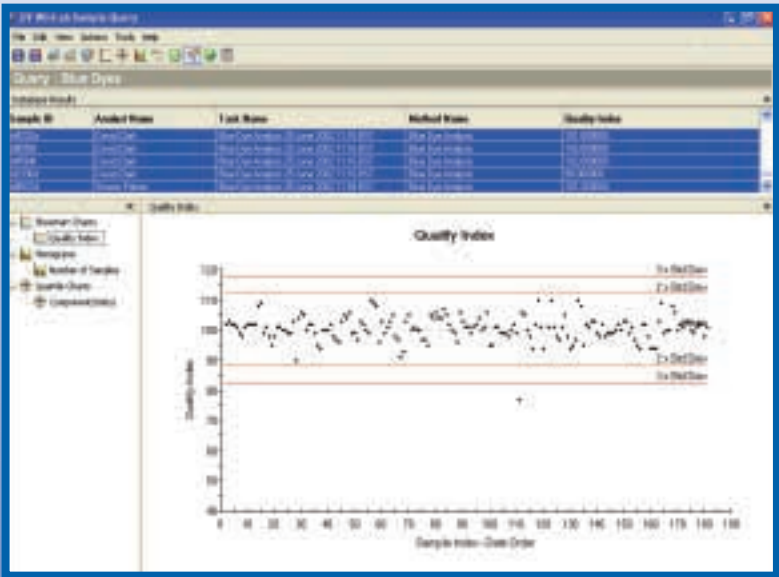
Report Template



Results

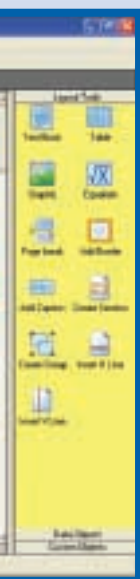


Report



Trending

Trending tools add another dimension to your data — review, analyze and predict.



Fully integrated math engine includes conditional formatting for easy setup of pass and fail criteria. Save frequently used equations as favorites.

In the Communiqué™ reporting environment, create customized report templates using a simple drag-and-drop report editor.



GLP information is included in the header and footer of the report.

Reports can even be automatically emailed anywhere they're needed at the end of the analysis.

sampling accessories simple

Lambda 25/35/45 systems offer the widest range of reproducible and robust sampling accessories to simplify and speed your analysis whatever your sample type. It's easy to choose the right one for your application—simply ask for our Consumables Catalog or browse and shop online at www.perkinelmer.com/essentials.

For liquids, the peristaltic sipper (Fig. 7) speeds throughput and the fiber-optic probes enable in-situ sampling away from the instrument (Fig. 8).

Our extensive range of thermostating options includes Peltier controllers to accurately control the temperature of your experiment (Fig. 9).



Fig. 7. Peristaltic Sipper

ssories

e, reproducible and robust

The temperature measurement kit (Fig. 10) provides precise in-cell temperature monitoring with real-time display within UV WinLab.

The sensitive integrating sphere (Fig. 11) simplifies the analysis of a wide variety of sample types, including solids, powders, pastes and liquids.

A range of automatic linear cell changers (Fig. 12) speeds and simplifies multi-sample measurements and quantitative calibrations.

For everyday UV/Vis measurements, a wide range of routine cells and cell-holders extends the range of samples you can analyze (Fig. 13).



Fig. 8. Fiber-Optic Probe



Fig. 9. 9+1 Peltier System



Fig. 13. Cells and Cell Holders



Fig. 12. 8+1 Cell Changer



Fig. 11. Integrating Sphere



Fig. 10. Temperature Measurement Kit

technical specifications

		Lambda 25	Lambda 35	Lambda 45
Part Number*	(Standard System)	L600000N	L600000P	L600000R
Part Number*	(Enhanced Security System)	L600000S	L600000T	L600000U
Wavelength Range		190 – 1100 nm	190 – 1100 nm	190 – 1100 nm
Bandwidth		1 nm fixed	0.5, 1, 2, 4 nm variable	0.5, 1, 2, 4 nm variable
Stray Light	At 220 nm (NaI)	<0.01%T	<0.01%T	<0.005%T
	At 340 nm (NaNO ₂)	<0.01%T	<0.01%T	<0.005%T
	At 370 nm (NaNO ₂)	<0.01%T	<0.01%T	<0.005%T
	At 200 nm (KCl)	<1%T	<1%T	<1%T
Wavelength Accuracy	At D ₂ peak (656.1 nm)	±0.1 nm	±0.1 nm	±0.1 nm
Wavelength Reproducibility	10 measurements at 656.1 nm	±0.05 nm	±0.05 nm	±0.05 nm
Photometric Accuracy	At 1A using NIST 930D filter	±0.001A	±0.001A	±0.001A
	At 2A using NIST 1930D filter	±0.005A	±0.005A	±0.005A
	Potassium dichromate	±0.010A	±0.010A	±0.010A
Photometric Reproducibility	Maximum deviation of 10 measurements at 1A	<0.001A	<0.001A	<0.001A
Photometric Stability	Stability at 1A, at 500 nm with 2 sec response time	<0.00015 A/hour	<0.00015 A/hour	<0.00015 A/hour
Photometric Noise at 500 nm (RMS)	Noise 500 nm / 0A RMS Slit 1 nm	<0.00005A	<0.00005A	<0.00005A
Baseline Flatness	Slit 1 nm	±0.001A	±0.001A	±0.001A
Construction	Solid CNC-machined aluminum chassis for thermal and vibration stability			
Optics	Double-beam, sealed, quartz-coated mirrors. Lens-free system to reduce chromatic aberrations			
Monochromator	Seya Namioka			
Grating	Holographic, concave grating with 1053 lines per mm			
Source	Deuterium and Tungsten prealigned sources with automatic switch-over			
Size	650 mm wide, 233 mm high, 560 mm deep, 25" wide, 9" high, 22" deep			
Weight (approx)	26 kg, 57 lbs			

The specifications listed above are guaranteed and are based on final test pass criteria used in manufacturing. Typical specifications may be superior to those listed.

*Requires PC

PerkinElmer, Inc.

PerkinElmer Instruments is part of the PerkinElmer, Inc., family, which also includes industry-leading businesses focusing on Optoelectronics and Life Sciences.

PerkinElmer Instruments is a world leader in chemical analysis. Our Analytical Instruments technologies serve the fast-evolving pharmaceutical, chemical, environmental and semiconductor industries, providing integrated solutions—from sample handling to interpretation and communication of results.

As one of the best known brands in research, analysis and testing, ours was probably the first analytical instrument you ever used. In addition to our UV/Vis Spectroscopy product line, we offer a broad range of solutions in Luminescence, AA, FT-IR, NIR, GC, GC/MS, HPLC, MALDI-TOF MS, ICP, ICP-MS and Thermal Analysis.

There are over 60 years of experience built into every product we make. So, for leading edge R&D and demanding QA/QC, you get the speed, accuracy and reliability you seek—for the productivity you need. Our service and support people are located in 125 countries throughout the world and are factory-trained.

Compliance doesn't get any easier than with our software, including 21 CFR Part 11 technical compliance on many products. And online consumables and accessories ordering lets you get your hands on what you need fast.

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