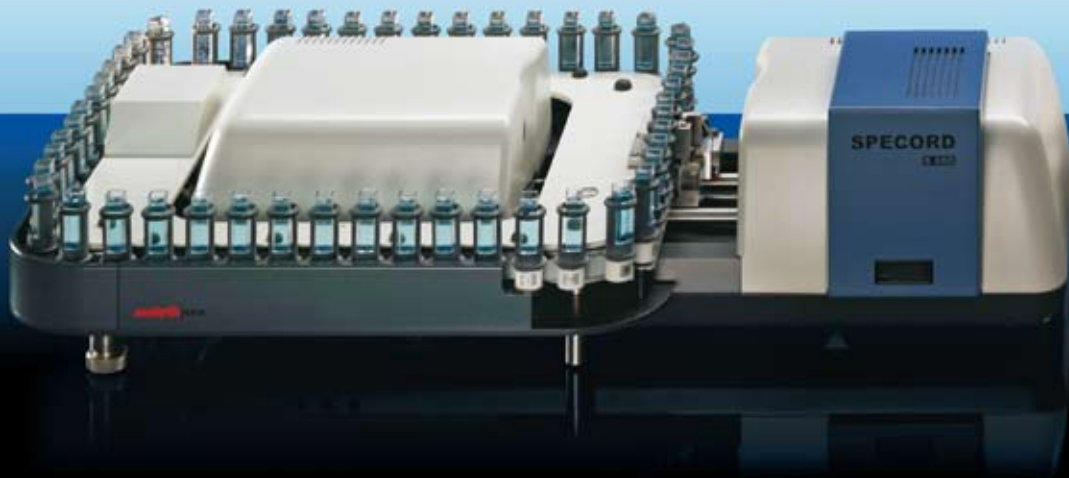
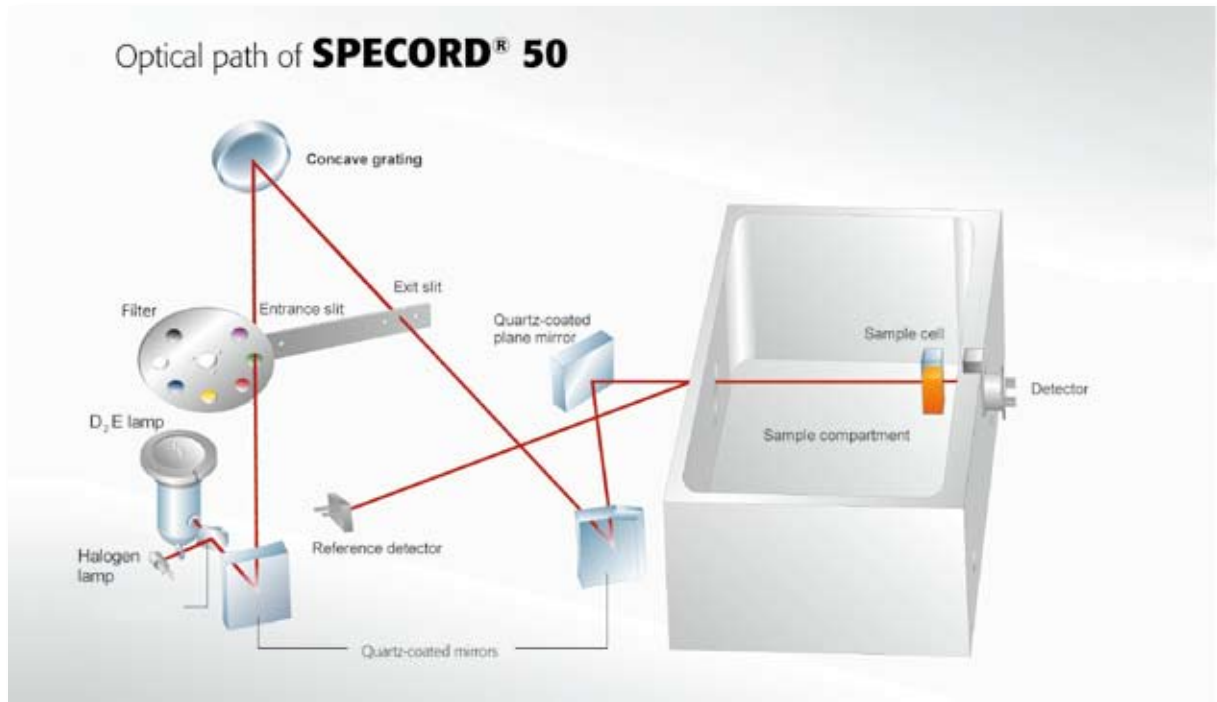


SPECORD®

Quality is the difference



SPECORD® 50/40 – ideal for daily routine



Best quality

To satisfy the rigid standards of pharmaregulation, instrument designs must be exacting to the last detail. With its array of compelling performance features, the SPECORD® series readily qualifies.

Lamp change with exceptional ease

The light sources of the SPECORD® series are prealigned, easily accessible and above all, readily interchangeable. Switching between the deuterium and halogen lamps is easily done and has a wide range of programmability. With striking simplicity, both lamps can be switched on or off via the software menu.

Reliability

The SPECORD® series are highly dependable with a minimum of moving parts. Computer-controlled stepper motors drive the filter wheel, the slit unit, the lamp switching mirror and the linear grating actuator.

Stability

The cast aluminum base plate is a solid foundation for high optical and mechanical stability. The voltage-stabilized radiation sources guarantees accurate measurements immediately upon start up, and over many hours, of use.

Turbid samples – No problem

An additional cell position for turbid samples which keeps energy losses at a minimum is a standard feature with all spectrophotometers of the SPECORD® series.

High-Speed

High scan speeds of up to 6000 nm/min in the scan mode throughout the spectral range are achieved with the aid of a linear actuator controlling the grating. In kinetic measurements at one wavelength, analytical time is resolved to 0.1 s.

The benefits are impressive:

- Excellent signal-to-noise ratio
- Incredibly fast measurements
- Exceptionally low identification limit
- High short-term and long-term stability
- No warm-up phase
- Scanning of spectra, as well as measurements at fixed wavelengths

SPECORD® 50

Powerful UV VIS spectrophotometer with double-beam mode due to SBT (Split-Beam Technology), measuring range 190 - 1100 nm.

The new concept behind the SPECORD® 50 combines the high energy throughput of a single-beam spectrophotometer with the stability of a double-beam instrument.

All this is due to the Split-Beam-Technology (SBT). Unlike the classical double-beam spectrophotometer, by far the greater part of the source energy is used for the sample beam.

Only a minor share of the radiation energy is branched off, via a beam splitter, and focused on a reference detector.

From the two detector signals, the measuring system of the SPECORD® 50 establishes the photometric result. This means that changes of the single-beam signal, due to variations in the light yield of the source, are compensated. Such variations may occur during source warm-up or ambient temperature changes.

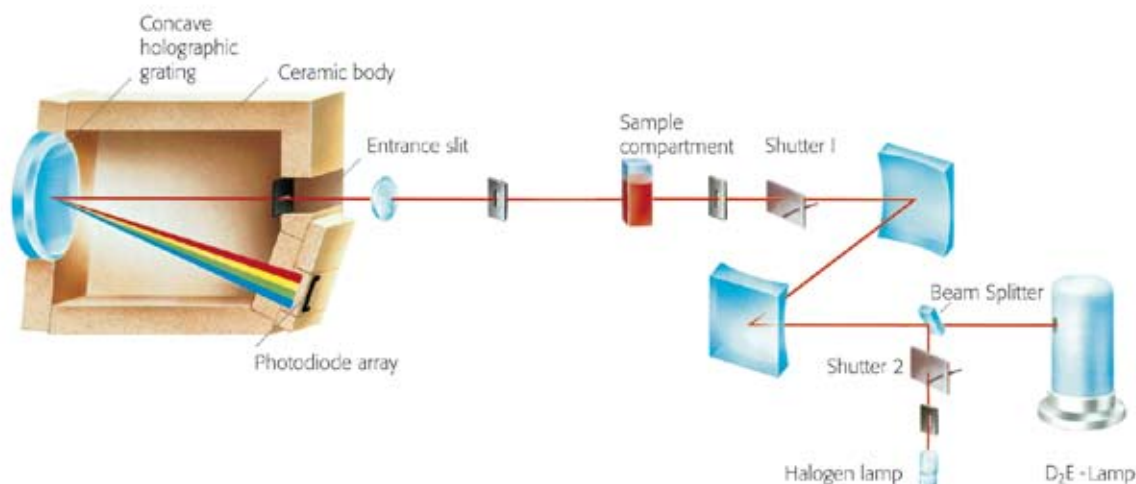
SPECORD® 40

SPECORD® 40 – Robust single-beam spectrophotometer for spectral range from UV to NIR (190 - 1100 nm).



SPECORD® S 600/S 300 – precise, fast, simultaneous

Optical path of **SPECORD® S 600/S 300**



Simultaneous high-performance diode array spectrophotometer

The UV VIS spectrophotometer SPECORD® S 600 and SPECORD® S 300 UV VIS or S 300 VIS combines the precision and convenient handling needed in laboratories with speed, reliability and superior optical performance.

The MCS optics (Multi-Channel System) or MMS optics (Monolithic-Miniatur-Spectrometer) have proven their worth based on lasting dependability in laboratory analysis as well as process analysis.

High-speed spectrometer

Fast analysis with a minimum scan rate of 12 milliseconds, from a spectral range of UV to NIR, the SPECORD® S 600/S 300 offers extremely fast analyses.

High-precision optics

This polychromator system, designed to work without any movable components, is the heart of the SPECORD® S 600/ S 300. The high-precision optics consists of an aberration-corrected grating, a mechanical slit and the diode-array-detector. Encased in a rugged quartz-ceramic body, it is permanently adjusted, fixed and insensitive to external influences.

This design ensures extremely accurate and highly reproducible results. At the same time, the SPECORD® S 600/ S 300 provides all the flexibility needed to solve most analytical problems.

Ruggedness, thermal stability as well as its high light yield are additional advantages of the SPECORD® S 600/ S 300.

SPECORD® S 600

diode array spectrophotometer with high spectral and time resolution for UV to NIR range

SPECORD® S 300 UV VIS und S 300 VIS

Diode array spectrophotometer for UV (190-720 nm) or VIS range (320-1100 nm)



The analytical advantages

- High precision polychromator systems – permanently adjusted and fixed with no moving parts
- Open sample compartment which accommodates all available accessories of the SPECORD® series
- Fast measurement of complete spectra in less than 12 milliseconds
- A high throughput cell carousel with 52 positions
- BIO Package for measurements of small sample volumes, determination of DNA-/RNA and using Peltier thermostated cell holders
- Self adjusting photometric linearity
- Automatic stray light correction
- Easily accessible and interchangeable light sources

Fields of application:

- Chemical and biological laboratories performing qualitative and quantitative determinations
- Process laboratories where routine sample batches need to be analyzed at high sample throughput

Perfect equipment

UV VIS spectroscopy in particular requires a wide range of accessories aside from a solid basic instrument. Cell holder, cell changer, flow cell systems, reflectance accessories or fiber coupling – the SPECORD® range of accessories allows a broad area of application, the automation of analysis processes and performing special applications.

For detailed information please have a look at the **SPECORD® accessory brochure** or at **www.my-specord.com**.

Certainly it is possible to use the SPECORD® S 300 for working either in UV or VIS range in combination with all advantages of the diode array technique.



WinASPECT® – comfortable new generation software, versatile and user-friendly

Intuitive user-oriented

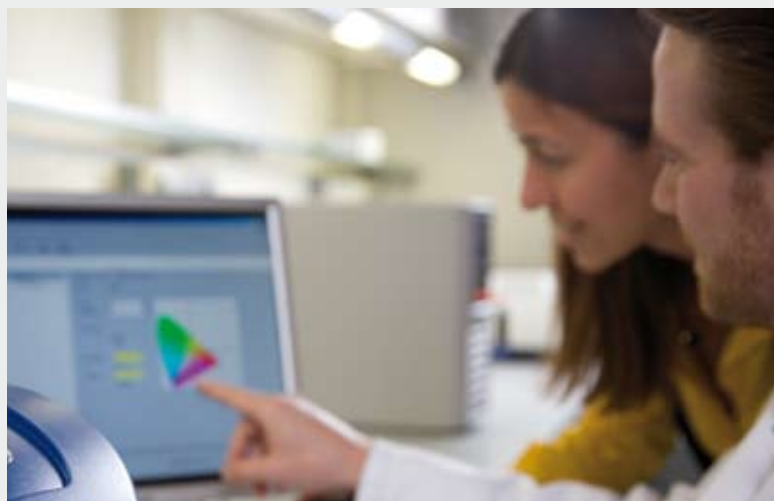
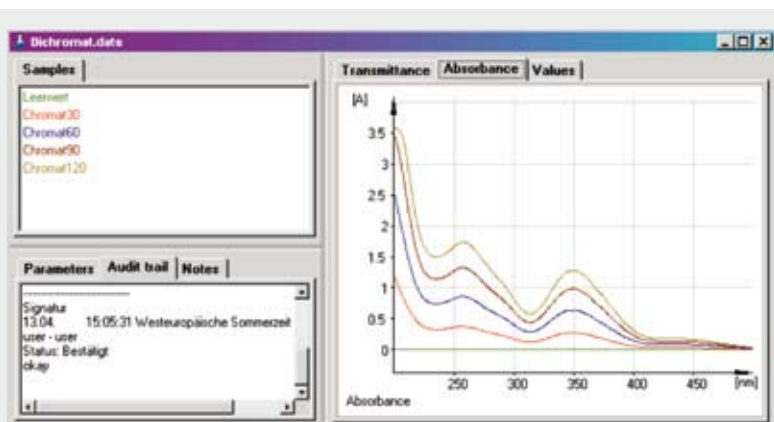
SPECORD® series has been developed for user-friendly operation:

- Easy to use
- No warm-up phase, plug and play
- Self Check System (SCS)
- Large, easily accessible sample compartment
- Easy use of different cell variants
- Easy lamp replacement
- Intuitive software navigation
- Modular software concept
- Multilingual software
- Integrated service check

Analysis made easy

The SPECORD® series is equipped with comprehensive basic software and numerous specific tools for individual applications.

- Data handling such as addition, subtraction, peak search, smoothing, derivative, interactive wavelength selection, integration and normalization
- Quantitative analysis with statistical functions
- Formula editor for creating individual formulas
- Macro programming for individual method development for automated measurement, evaluation and documentation processes
- Life Science program package for the quantification of nucleic acids and proteins with numerous preprogrammed bio methods like DNA purity determination, Warburg Christian-, Scopes-, Kalb- and Bernlohr-Formula
- Kinetics tool for evaluating time-controlled reactions
- Tool for measuring the layer thickness of transparent coatings and foils
- Tool for color determination, like calculating the color coordinates using the different standard illuminant art, white/yellow index and color numbers, compliant with relevant standards
- Diverse methods and software tools for food analysis, e.g. comprehensive brewery analysis tool for determining the parameters like color, bitter substances, iodine, ethanol, sulfite
- Water analysis with preprogrammed methods
- Validation software for quality assurance of the analysis which is strictly based on the regulations
- Service check to determine the overall technical condition of the device
- Online update function



Compliance with relevant standards guaranteed!

In respect for today's statutory and in-house requirements, comprehensive quality assurance is a primary consideration implemented in the WinASPECT® software. According to GLP, all analytical data must be accessible and their accuracy ascertained and documented. Compliance with these requirements can be assured through a variety of measures for the fully automatic monitoring of the precision and accuracy of measurements.

FDA 21 CFR Part 11

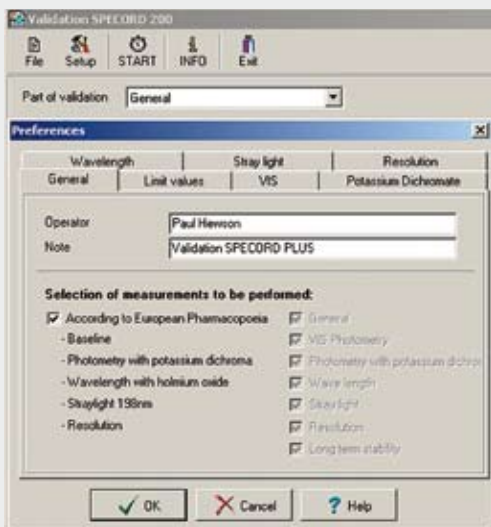
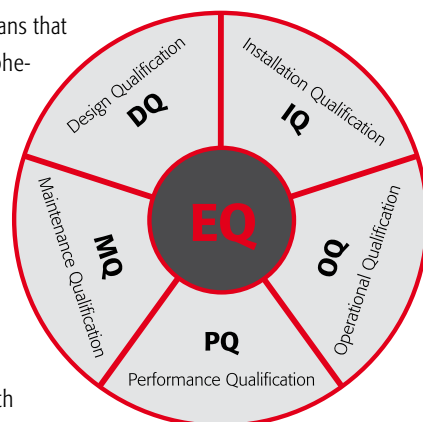
Conformity to FDA 21 CFR Part 11 is often a must for modern analysis software. The functions integrated in WinASPECT® ensure data security as well as the reliability, lucidity and traceability of all actions throughout the measuring time. All processes are presented in easily comprehensible terms and with a clear layout. Comprehensive user management, an electronic signature facility and the Audit Trail satisfy the requirements of FDA 21 CFR Part 11. Every audit will supply convincing proof that with these functions, WinASPECT® has the ideal tools you need for efficient work in everyday lab routine and yet conforms to FDA 21 CFR Part 11.

Validation of device parameters

To determine all important device parameters of your SPECORD® PLUS in compliance with internal or external quality standards, such as Ph.Eur., USP, TGA and ASTM and to ensure correct and accurate results, the WinASPECT® UV VIS software offers a special Validation module.

Installation and Operation Qualification

Installation Qualification (IQ) means that the main instrument and its peripherals have been properly installed. A certificate of Installation Qualification is provided. Operation Qualification (OQ) means that the spectrophotometer has been certified to satisfy the performance specifications guaranteed by Analytik Jena. Validation tests are conducted with certified photometric standards, to ensure that measurement results conform to the highest standards of reliability, accuracy and precision.



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Subject to changes in design and scope of delivery as well as further technical development!