

# Uvikon XL

## Advanced Power in UV/Vis Spectroscopy

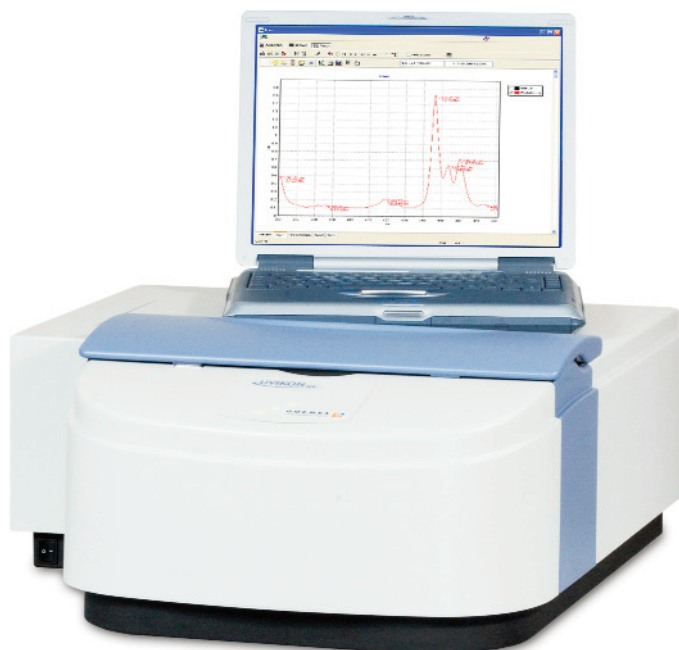
The **UVIKON** Simplicity Concept represents the first Spectrophotometer Series featuring **Advanced Digital Signal Processing (ADSP)**.

ADSP ensures reliable data acquisition, superb sensitivity and very low instrument noise to obtain consistent linear measurements even at high absorbance values.

The **Uvikon XL** in combination with the easy-to-use control and spectra calculation software **UVSx** supports the entire range of daily routine applications. The integrated formula editor allows full automation of even complex calculations within the basic software. The basic software version fulfills all GLP requirements as any stored result is fully traceable. The 21CFR11 compliant version completely covers the increased regulatory requirements in the pharmaceutical area.

With its large range of accessories the **Uvikon XL** covers all requirements in automated routine operation as well as for advanced special applications:

- Variable slit to allow high resolution spectra acquisition
- Photomultiplier (PMT) technology for high sensitivity and linearity



### Specifications:

#### Wavelength range

180 - 900 nm

#### Wavelength step

0.05 - 10 nm

#### Scan speed

5 - 5.000 nm/min

#### Transfer speed

7,000 nm/min

#### Spectral bandwidth

0.2 - 0.5 - 1 - 2 - 4 nm;  
0.5 - 1 - 2 - 4 nm, at reduced height

#### Wavelength accuracy

(Holmium Oxide filter at 10 nm/min / 1 nm slit)

± 0.25 nm

#### Wavelength precision

(Holmium Oxide filter at 444.4 nm and 2<sup>nd</sup> wavelength at 536.7 nm, positioning speed 7,000 nm/min)

± 0.025 nm

#### Baseline flatness, 200 - 800 nm

(2 nm slit, 200 nm/min scan speed)

± 1 mAbs

#### Stray light, NaI, 220 nm, 1 sec

< 0.015% T

#### Linearity, 250 nm, 2 nm, 1 sec, r<sup>2</sup> > 0,999

3.3 Abs

#### Photometric range

± 5 Abs

#### Photometric accuracy

(0.85 Abs, certified filter, 1 sec, 590 nm)

± 3 mAbs

#### Photometric precision

(0.85 Abs, certified filter, 1 sec, 590 nm)

± 0.5 mAbs

#### Noise

(RSM, at 580 nm for 5 min, 2 nm, 1 sec)

40 μAbs

#### Drift

(580 nm, 2 nm, 1 sec, after 2 h warm-up)

< 0.1 mAbs/h

#### Response time

0.02 - 10 sec

#### Light sources

Deuterium and Tungsten-Halogen

#### Monochromator

- High energy low stray light diffraction
- grating with 1,300 lines/mm
- 175 mm focal length

#### Dimensions / Weight

690(W) x 565(D) x 275 mm(H),  
35 kg net

#### Power Supply

100/240 VAC ± 10%,  
50/60 Hz  
Max. 200 VA

## Technical Description

### Sample Compartment

- 140 mm deep, 332 mm wide, 162 mm high, with 120 mm beam separation
- Easy access: front top and back covers are quickly removable
- Three point positioning of accessories for high reproducibility results
- Quartz windows at the beam entrance and exit to the sample compartment prevent contamination of the optics

### Accessories

- Thermostatable standard cell holder directly usable with micro and ultra-micro cells for small samples
- Large range of optional Quick Lock accessories including a variety of cell holders, stirrer, thermostatable automatic cell changer, temperature sensor, thermostatable sipper, Thermopack and Thermosystem (Peltier Technology)
- Integrating sphere for turbid samples and data acquisition in reflection mode (solid sample and powders)

### Environment

- Ambient temperature range: 15 °C to 30 °C

### Optical Design

- Well proven true double beam optics with only 6 reflecting surfaces per beam
- High-Energy Zeiss Monochromator design using a holographic blazed diffraction grating with 1300 lines per mm
- Very sensitive photomultiplier with a rotating all-reflecting chopper mirror providing 100% energy in sample and reference beams plus dark current correction
- External source bench providing thermal isolation of the optical bench and protection of the whole photometric assembly against ozone contamination from the deuterium lamp
- Optical bench base manufactured to a tolerance of 0.01 mm in 1 meter
- Complete optical system is sealed against atmospheric contamination from dust and volatile compounds

### Control and Calculation Software UVSx Lite

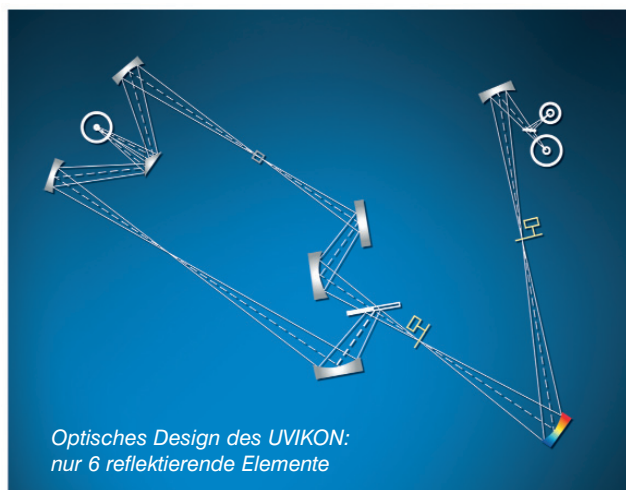
- Measurements at single or multiple wavelengths
- Integrated formula editor for automatic calculation of even complex relationships
- Spectra scan and result calculation from scan data
- Automated calculation of activity rates in Kinetics, also with multiple samples measured in parallel
- Complete traceability for all stored results with link between raw data, the method and calculation used
- Local data base protects methods, raw data and results against manipulation

The 21CFR11 compliant version features additionally:

- Integrated user management with login and password allows access restriction definition through defined user role
- Complete audit trail
- Electronic signature on selectable level

## Ordering Information

<b>99-90283</b>	Uvikon XL (Software UVSX or UVSXL required)
<b>UVSXL</b>	Control & Calculation Software
<b>UVSX</b>	Control & Calculation Software (21CFR11 compliant)
<b>91-00586</b>	6x6 Automatic Cell Changer
<b>91-91465</b>	Thermopack (external waterbath with Peltier Technology)
<b>91-91637</b>	Thermosystem (6x6 Automatic Cell Changer, Peltier-thermostated)
<b>91-91671</b>	Sipper system



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