Spectral photometers

UVILINE *SI* SERIES

SI Analytics

a **xylem** brand

UviLine *SI* Spectral photometers
Measurement on highest levels

The **UviLine SI** series is the latest generation of well-established spectrophotometers from SI Analytics. The new series comprises three photometers with the proven single-beam technology as well as two new photometers with reference beam technology for the very highest demands. All instruments have a large full color display and enhanced connectivity making external control via PC with optional software possible. UviLine SI spectrophotometers are innovative and up-to-date, supporting you with the highest demands in laboratory, production or research. A wide range of accessories for special applications is also available.

Performance range of UviLine *SI* series

All Photometers of the UviLine SI instrument series convince due to their outstanding performance range.

- ◀ Absorption and transmission measurements
- ◀ Set up of methods in concentration mode
- ◀ Multi wavelength measurements
- ◀ Spectral scan with online graphic
- ◀ Kinetics
- ◀ GLP compliance due to user login

◀ Covering a wide range of applications through a matching product range including accessories.

◀ Optimal readability through graphical displays with backlighting.

◀ Multiple measuring and evaluation options.

◀ External control of the photometers with an intuitive computer software.

◀ Unbeatable value for money.

◀ Save the results as PDF or CSV file.

Benefits
UviLine SI

UviLine *SI* 5000 — The entry-level model for measurements in the visible spectral range with a band width of 6 nm offers a convincing cost-benefit ratio.

UviLine *SI* 6000 — For measurements in the visible spectral range with high precision due to the lower bandwidth of 4 nm.

UviLine *SI* 6100 — Discover the new UviLine SI 6100 with reference beam technology for high precision and low drift including a large coloured display.

UviLine *SI* 7000 — For measurements in the UV – VIS spectral range with a bandwidth of 4 nm.

UviLine *SI* 7100 — The UviLine SI 7100 with reference beam technology convinces with the same properties as the UviLine SI 6100 in the UV –VIS spectral range.

Optical System

The UviLine SI instrument series offers a unique optical design in this class of instruments

- ◀ Minimized stray light
- ◀ Large wavelength range
- ◀ Automatic compensation of ambient light
- ◀ High scan speed
- ◀ Automatic wavelength calibration

Overview - Technical data UviLine SI

	UviLine SI 5000	UviLine SI 6000	UviLine SI 6100	UviLine SI 7000	UviLine SI 7100
Wavelength range	320 – 1100 nm / VIS	320 – 1100 nm / VIS	320 – 1100 nm / VIS	190 – 1100 nm / UV-VIS	190 – 1100 nm / UV-VIS
Technology	Single beam	Single beam	Reference beam	Single beam	Reference beam
Light source	Halogen	Halogen	Halogen	Xenon	Xenon
Spectral bandwidth	6 nm	4 nm	4 nm	4 nm	4 nm
Wavelength accuracy	± 1 nm	± 1 nm	± 1 nm	± 1 nm	± 1 nm
Wavelength repeatability	± 0.5 nm	± 0.5 nm	± 0.5 nm	± 0.5 nm	± 0.5 nm
Photometric range	± 3300 Abs	± 3300 Abs	± 3500 Abs	± 3300 Abs	± 3500 Abs
Photometric resolution	0.001 Abs or 0.1 % T	0.001 Abs or 0.1 % T	0.001 Abs or 0.1 % T	0.001 Abs or 0.1 % T	0.001 Abs or 0.1 % T
Photometric accuracy	± 0.003 Abs at 0.5 Abs ± 0.005 Abs at 1.0 Abs ± 0.010 Abs at 2.0 Abs	± 0.003 Abs at 0.5 Abs ± 0.005 Abs at 1.0 Abs ± 0.010 Abs at 2.0 Abs	± 0.003 Abs at 0.5 Abs ± 0.005 Abs at 1.0 Abs ± 0.010 Abs at 2.0 Abs	± 0.003 Abs at 0.5 Abs ± 0.005 Abs at 1.0 Abs ± 0.010 Abs at 2.0 Abs	± 0.003 Abs at 0.5 Abs ± 0.005 Abs at 1.0 Abs ± 0.010 Abs at 2.0 Abs
Stray light	≤ 0.1 %T at 340 nm (GG375) ≤ 0.1 %T at 400 nm (GG408)	≤ 0.1 %T at 340 nm (GG375) ≤ 0.1 %T at 400 nm (GG408)	< 0.1 %T at 340 nm (GG375) < 0.1 %T at 408 nm (GG408)	≤ 0.1 %T at 220 nm (NaI) ≤ 0.1 %T at 340 nm (GG375) ≤0.1 %T at 400 nm (GG408)	< 0.1 %T at 198 nm (KCl) < 0.1 %T at 220 nm (NaI) < 0.05 %T at 340 nm (GG375) < 0.05 %T at 408 nm (GG408)
Baseline	± 0.010 Abs	± 0.010 Abs	± 0.002 Abs	± 0.010 Abs	± 0.002 Abs
Interfaces	1 USB-A 1 USB-B 1 Ethernet RJ-45	1 USB-A 1 USB-B 1 Ethernet RJ-45	1 USB-A 1 USB-B 1 Ethernet RJ-45	1 USB-A 1 USB-B 1 Ethernet RJ-45	1 USB-A 1 USB-B 1 Ethernet RJ-45
IP	30	30	30	30	30
Cuvettes	16 mm round/10, 20, 50,100 mm rectangle	16 mm round/10, 20, 50,100 mm rectangle	16 mm round/10, 20, 50,100 mm rectangle	16 mm round/10, 20, 50,100 mm rectangle	16 mm round/10, 20, 50,100 mm rectangle
Power supply	110 – 220, 50/60 Hz Country specific cable/plug	110 – 220, 50/60 Hz Country specific cable/plug	110 – 220, 50/60 Hz Country specific cable/plug	110 – 220, 50/60 Hz Country specific cable/plug	110 – 220, 50/60 Hz Country specific cable/plug
Temperature range	Storage: -25 – 65 °C Use: 10 – 35 °C	Storage: -25 – 65 °C Use: 10 – 35 °C	Storage: -25 – 65 °C Use: 10 – 35 °C	Storage: -25 – 65 °C Use: 10 – 35 °C	Storage: -25 – 65 °C Use: 10 – 35 °C
Dimensions (L x l x h)	404 x 197 x 314 mm	404 x 197 x 314 mm	404 x 197 x 314 mm	404 x 197 x 314 mm	404 x 197 x 314 mm
Weight	4 kg	4 kg	4 kg	4 kg	4 kg

UviLine *SI* 5000

The entry level model of the UviLine SI series

The affordable entry-level device UviLine SI 5000 not only impresses with the very attractive price, it is also as robust and functional as the higher models. With its spectral range of 6 nm, UviLine SI 5000 already offers a high-precision measuring technique, which is ideally suited for entry into the VIS range of photometry. Numerous enhancements, such as the equipment with a cuvette changer and distinguishable cuvette holders or peltier elements, are also standard in this model.

UviLine SI - Measuring chamber

UviLine SI 5000

Easily removable cuvette holders through Quick-Lock

◀ **Clear and well-arranged keyboard**

With four function keys F1–F4 for fast and direct triggering of functions, such as settings, tools, zoom etc.
Alphanumeric keys for entering the wavelengths, sample IDs and other parameters.
Specially separated cursor section with ESC (escape) and START/ENTER keys for fast navigation.
Also 5 additional keys with direct functions such as print, zero (reference), store etc.

◀ Affordable entry in to Phometrie.

◀ Latest USB interfaces and RS232 for connection of USB hub, keyboard storage, PC and other devices such as accessories.

◀ Save the results in PDF and CSV format on USB stick.

◀ Software for operating the device via PC available.

◀ Wide vision color display with graphics capability.

Benefits
UviLine SI 5000

UviLine *SI* 6000 and *SI* 6100

The even more precise models of UviLine SI series

The **UviLine SI 6000** models are equipped with a tungsten halogen lamp, perfect for the visual field. With a spectral bandwidth of 4 nm, the 6000 and 6100 provide higher resolution results than the entry level model. The UviLine SI 6100 delivers even more accurate results due to the simultaneous measurement through its additional reference beam that compensates for possible fluctuations of the light source.

UviLine SI 6000

UviLine SI 6100 - open chamber

Interfaces UviLine SI

◢ Interface capability

The USB-B (slave) interface will connect to a PC. Both UviLines also have a USB-A (master) interface for connection to various instruments:

- USB memory sticks and USB hard disks. This enables an easy expansion of the internal memory volume and also facilitates the data exchange (facilitates bi-directional data exchange).
- Standard printers with USB interface.
- External PC keyboard.
- In addition, an Ethernet interface is also available, thus providing the path for future connectivity.

◢ 4 nm technology for VIS range.

◢ USB and RS232 interfaces for connecting USB keyboard, USB HUB, USB storage, PC and other devices such as accessories.

◢ Exporting the results in PDF and CSV format to USB stick.

◢ Available software for operating the photometer from PC.

◢ Optimal readability by using graphical screens with backlighting.

◢ Available as single beam and reference beam unit.

Benefits
UviLine SI 6000/6100

UviLine *SI* 7000 and *SI* 7100

The precision all-rounder

The 7000 series is our popular all-rounder. Equipped with a Xenon flashlight, these instruments are ideally suited for permanent use in both UV and VIS spectrometry. The UviLine SI 7100's reference beam is the right choice for those who wish to operate to the highest precision in the 4 nanometer bandwidth class.
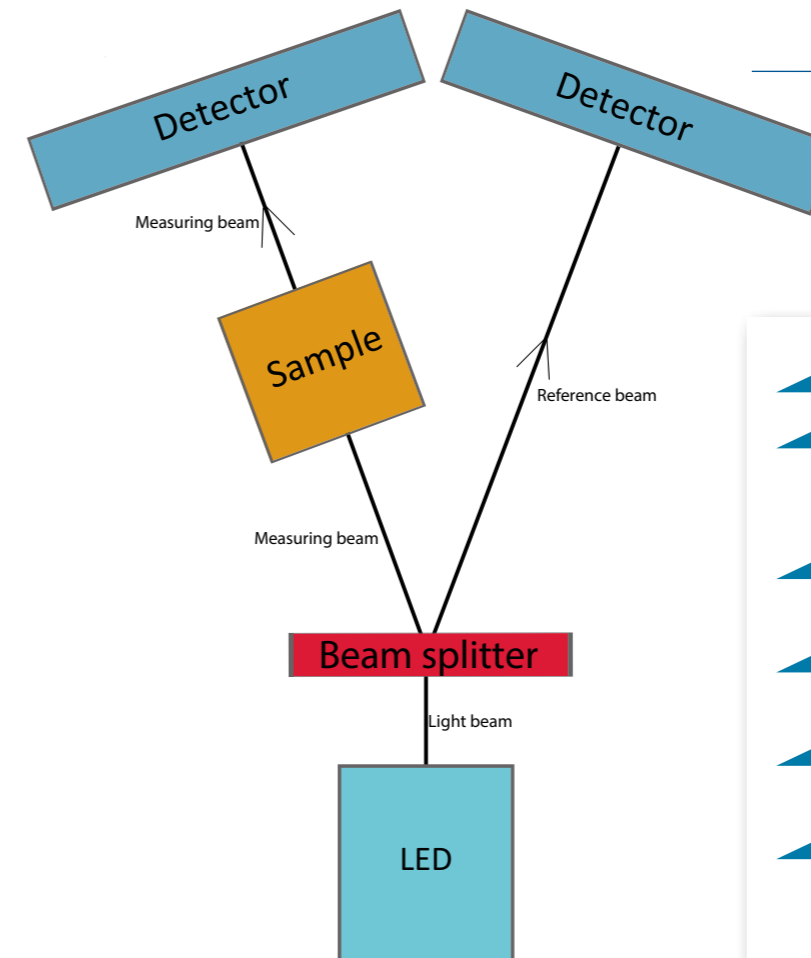
Large measuring chamber and extensive accessories

The large measuring chamber allows the use of cuvette holders up to a size of 100 mm. This also allows measurements at very low concentrations. Various cuvette holders / change-over devices are available, which can be easily exchanged with one handgrip. The proven and extremely secure Quick-Lock system allows the equipment to be exchanged within seconds.

Reference beam principle (simplified)

UviLine SI 7100
with installed sipper element

- 4 nm band width for UV and VIS.

- USB and RS232 interfaces for connecting USB keyboard, USB HUB, USB storage, PC and other devices such as accessories.

- Exporting the results in PDF and CSV format to USB stick.

- Available software for operating the photometer from PC.

- Optimal readability by using graphical screens with backlighting.

- Available as single beam and reference beam unit.

Benefits
UviLine SI 7000/7100

UviLine *SI* accessories

The large, easily accessible cuvette chamber of the UviLine allows the use of a large number of accessories which extends the range of use of the spectrophotometer and automates the workflow. Our entire UviLine SI range of accessories fits on any UviLine SI series. All automatic accessories, such as the automatic cuvette changer, the sipper or the Peltier thermostatable cuvette holder are completely software-controlled.

◢ **Sipper**

The sipper makes operation simpler and increases productivity. It comes with a peristaltic pump integrated in the cell holder which is water thermostated and allows:

• Programmable suction from 500 µl to 3000 µl and
• Use of flow-through cells from 30 µl to 450 µl.

◢ **Easy exchange of accessories via QuickLock system**

All accessories can be easily exchanged via a "QuickLock" system by a press of the finger. The massive metal baseplate of the accessories guarantees an optimal positioning of cells.

◢ **Single cell holder, up to 10 mm optical path length**

The 10 mm cell holder is included in the standard delivery of the UviLine SI. It guarantees a perfect positioning for all types of cells.

• It can be used with micro cells up to 50 µl.
• An optional water thermostatable version is also available.
• Is standard equipment of all UviLines.

◢ **Peltier thermostatable cell holder**

The thermoelectric Peltier element either heats or cools the sample in the cell to the required temperature. It is ideal for kinetic measurements:
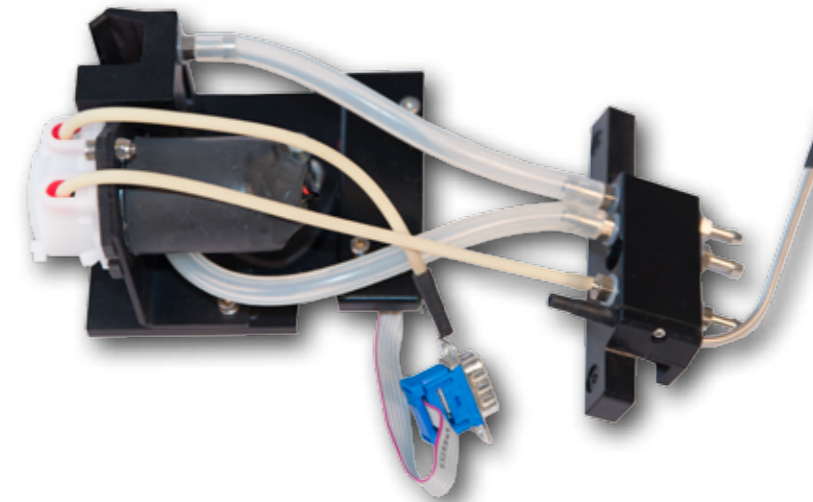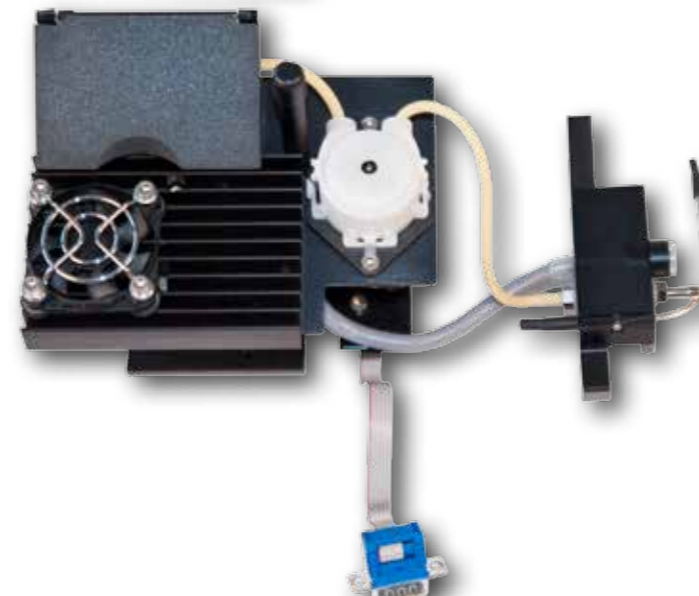
• Temperature setup between 10°C and 60°C
• Accuracy: ± 0.5°C
• No external thermostat needed
• Sipper option
• Fast, ultra compact and fully instrument driven.

◢ **Single cell holder, up to 100 mm optical path length**

This cell holder allows the use of long path length cells up to 100 mm and round cuvettes with 16 mm diameter. It is adjustable to 10, 20, 50 and 100 mm .
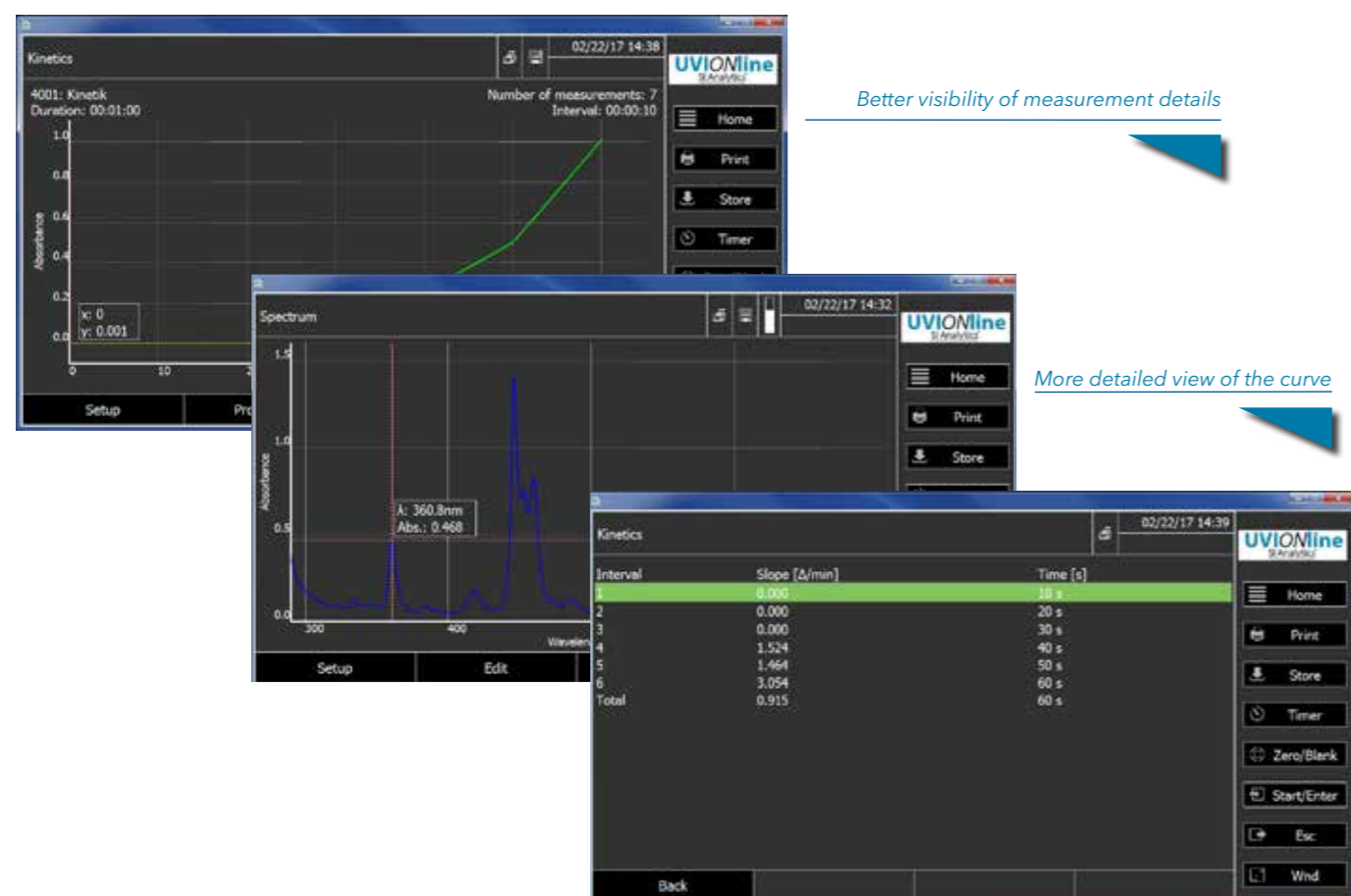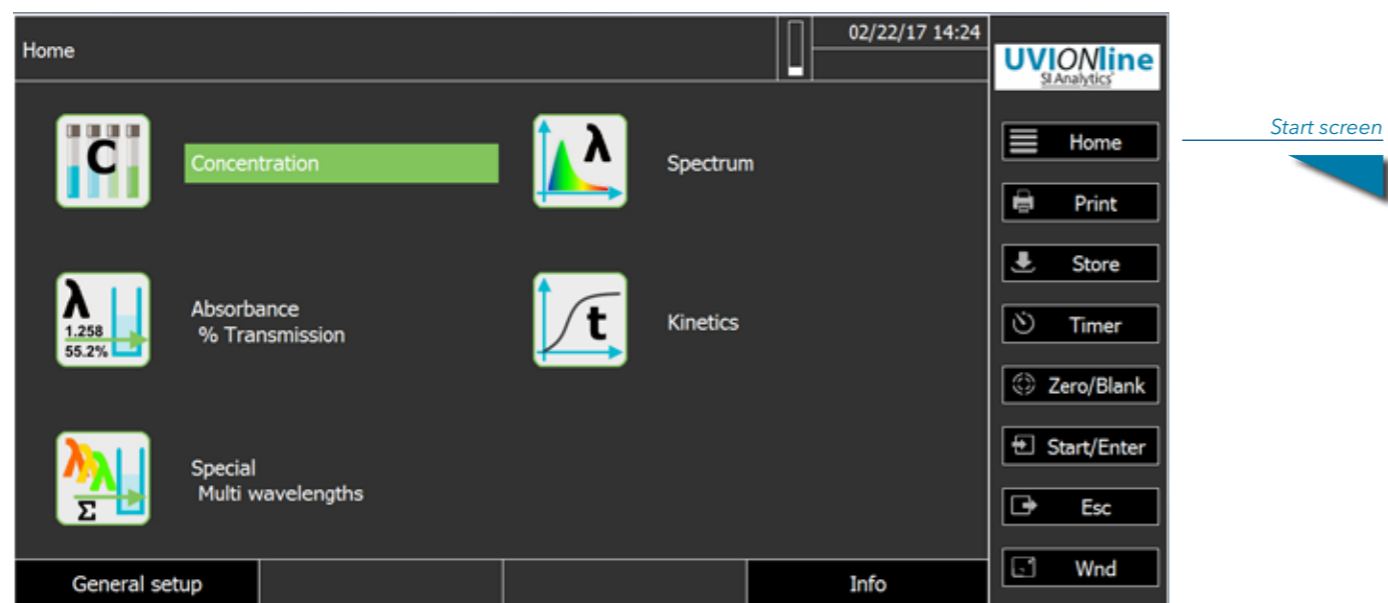
◢ **Automatic cell changer 5 +1**

Designed to analyze 5 samples and 1 blank. It guarantees automatic applications with stable measurements and unique advantages.

• Removable and easy to reinsert turret for convenient cells setup
• Accurate positioning of low volume cells
• The blank value is always read *before* the sample measurement – a clear advantage for kinetics measurements.

◢ **Peltier-thermostatable system with sipper**
Combines our sipper and peltier systems.

UviONLine - Desktop software

The new UviONline software is specifically designed to control the operation of the device completely from the PC. The intuitive user interface offers the possibility to control the device even more easily with a mouse and to store measured data.

Start screen

Better visibility of measurement details

More detailed view of the curve

Ordering information

Spectrophotometers

Type No.	Order No.	Description
UviLine SI 5000	285700310	Single beam photometer, 6 nm bandwidth, wavelength range 320 - 1100 nm
UviLine SI 6000	285700320	Single beam photometer, 4 nm bandwidth, wavelength range 320 - 1100 nm
UviLine SI 6100	285700330	Reference beam photometer, 4 nm bandwidth, wavelength range 320 - 1100 nm
UviLine SI 7000	285700340	Single beam photometer, 4 nm bandwidth, wavelength range 190 - 1100 nm
UviLine SI 7100	285700350	Reference beam photometer, 4 nm bandwidth, wavelength range 190 - 1100 nm

Accessories

Type No.	Order No.	Description
SZ 2100	285700200	5+1 cell changer, controlled from UviLine
SZ 2110	285700210	Single cell holder, cell path length 10 - 100 mm
SZ 2190	285700295	Cell holder, for round vials with a diameter of 16 mm
SZ 2170	285700300	Universal cell holder for cells with a path length of 5-100 mm and 16 mm round vials
SZ 2140	285700240	Single cell holder for 10 mm cells, thermostatable (water)
SZ 2160	285700260	Single cell holder for 10 mm cells, thermostatable (peltier)
SZ 2150	285700250	Controlled from UviLine. Including quartz flowthrough cell

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1) The tissue in plants that brings water upward from the roots;
2) a leading global water technology company.

We're a global team unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

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