

# photoLab<sup>®</sup> 6100 VIS

# photoLab<sup>®</sup> 6600 UV-VIS



Spectrophotometers for  
systematic and spectral analysis from 190 to 1100 nm

## AQA: Set it up to your requirements

WTW photometers are distinguished for their instruments supporting Analytical Quality Assurance (AQA). User friendly operation for checking the instrument and test kits for single users are supported as well as an extensive user administration for a multiple user environment. The AQA can be switched-on or switched-off optionally. In addition, lot certificates assure quality and add to the plausibility of measuring results.

### Multi-level AQA functions

A wide range of testing equipment and AQA functions for instrument and reagents is available. The AQA functions can be accessed easily via function keys F1–F4 in context with the performed task.

- Calibration interval for instrument and test kits (time or number of measurements)
- PhotoCheck: menu guided check of zero, barcode reading unit, checking three wave lengths at 4 measuring points (linearity)
- CertiPUR® standards
- Default values for standard parameters including tolerances for standard solutions
- MatrixCheck with spiking/dilution procedures including calculation of recovery rates
- User administration providing administrator, user and guest profiles

|              |                              |
|--------------|------------------------------|
| AQA2 setup   | 08/16/07 18:25               |
| General      |                              |
| Mode         | Measurements                 |
| Lock methods | Yes                          |
| Method       | 6: P6/25                     |
| AQA2         | AQA2 inactive                |
| Interval     | 50 Measurements              |
| Target value | 0.80 mg/l PO <sub>4</sub> -P |
| Tolerance    | 0.08 mg/l PO <sub>4</sub> -P |
| Standard ID  |                              |
| Method       | Apply                        |



PhotoCheck



CombiCheck

Autoselector and rectangular cells



## Routine measurement at its best!

### Cell recognition

Open lid, insert cuvette, read result: The photoLab® 6000 models recognize the cuvette size automatically, no matter whether round, 10, 20 or 50 mm!

### Barcode recognition for round and rectangular cells!

For all test kits with barcodes, the relevant default values are set automatically via stored method data: for round but also rectangular cells 10, 20, 50 mm!

- For round cells via barcode label
- For rectangular cells via the Autoselector coming with the test kits.



**Waste water • Drinking water • Laboratories • Petrochemistry**



## Spectral Analysis

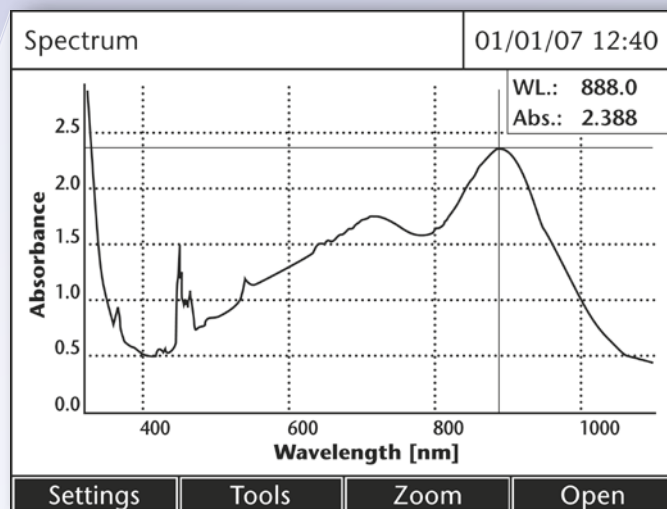
The photoLab® 6000 series includes the complete functionality for spectra, kinetics and multi-wavelength measurements ranging from 190 to 1100 nm. The new concept featuring menu-related function keys allows a user-friendly and fast operation, not only for standard measurements, but also for special routines.

**Large graphic display**, backlit for concise operation and graphical evaluation with cursor sensing and zoom

**Multi-wavelength reading** with up to 4 absorbance values at different wavelengths

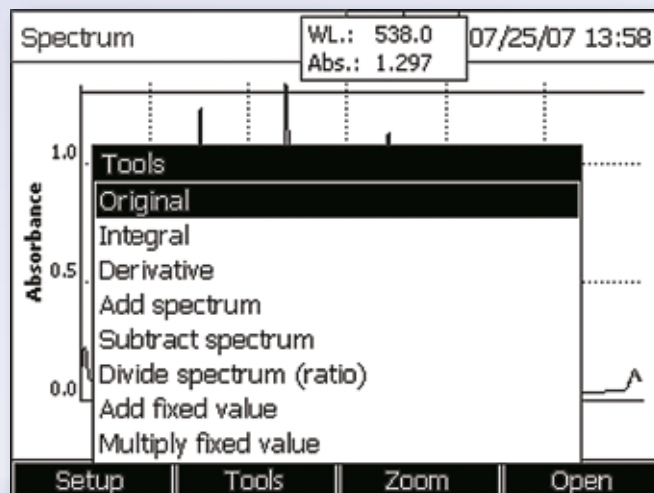
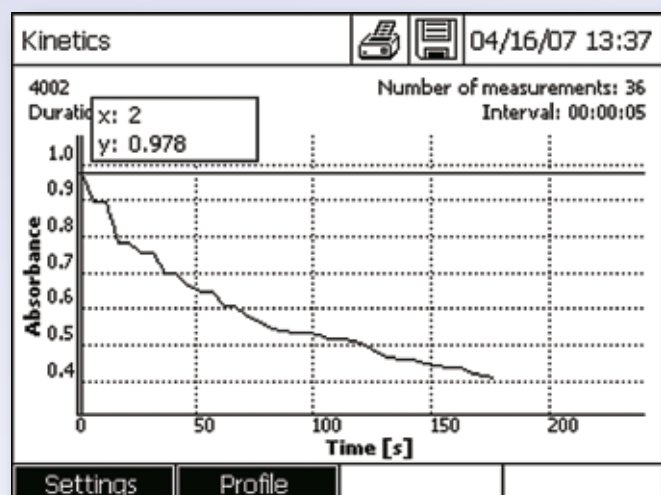
**Spectra and kinetics:** values are displayed as absorbance or % transmission; 1 nm steps

**20 profiles**, storable for each spectra/scan, kinetics and multi-wavelength measurement, either for absorbance or % transmission.



**Waste water • Drinking water • Laboratories • Petrochemistry**

**Extensive evaluation functionalities**, e.g. min./max.-recognition, spectra addition and subtraction, peak area determination, derivation, smoothing, multiplication of constants



## Applications from A-Z

photoLab® 6100 VIS and 6600 UV-VIS stand out by their combination of both classical spectrophotometry including all scan functions and method based routine measurement including AQA. Therefore, they are suited for routine tasks in water analysis and industry as well as for university and education.

- Aquatic systems
- Drinking water
- Education and Research
- Food and Beverage
- Galvanics
- Petrochemistry
- Schools
- Service labs
- Waste water
- Wine industry

**Wine industry • Food and beverages • Galvanics • Education**

## Innovative handling – intuitive, fast and direct access...

**User guidance** on display

**Function keys F1–F4** provide fast and direct access to functionalities and standard functions such as dilution, change of quotation mode, print and storage of data sets and function related settings

**Selection tables** for most convenient selection of methods

**Data filter** for selective data handling

**Favourite list** for test kits

| Select method (all)  |       |                    |                            | 08/08/07 10:40 |
|----------------------|-------|--------------------|----------------------------|----------------|
| <input type="text"/> |       |                    |                            |                |
| 4                    | N2/25 | NO <sub>3</sub> -N | 0.5 - 25.0 mg/l            | ▲              |
| 5                    | N5/25 | NO <sub>2</sub> -N | 0.010 - 0.700 mg/l         |                |
| 6                    | P6/25 | PO <sub>4</sub> -P | 0.05 - 5.00 mg/l           |                |
| 7                    | P7/25 | PO <sub>4</sub> -P | 0.5 - 25.0 mg/l            |                |
| 14                   | 14540 | COD                | 10 - 150 mg/l              |                |
| 15                   | FB436 | DFZ                | 0.5 - 50.0 m <sup>-1</sup> |                |
| 17                   | 14554 | Ni                 | 0.10 - 6.00 mg/l           |                |
| 18                   | 14785 | Ni                 | 0.10 - 5.00 mg/l           |                |
| 21                   | IodFa | IFZ                | 1.0 - 50.0 IFZ             |                |
| 23                   | 14541 | COD                | 25 - 1500 mg/l             | ▼              |
| Last used            |       |                    |                            |                |



Function keys

Method selection

## Data management with USB interface

**The USB interfaces** (USB-A, USB-B) for comfortable data exchange either via USB stick or via hub into a larger PC environment. The bi-directional exchange enables easy handling for the storing and updating of

- Measurement data sets
- Spectra and kinetics data
- Software updates
- Method updates

Using an external barcode reader, further barcodes can be read, e.g. for sample ID.

**An RS 232 interface** is also available.



USB interfaces



For measurements in VIS range **320–1100 nm**

## photoLab® 6100 VIS

SERIES

**photoLab® 6100 VIS** is designed for use in the VIS range from 320 to 1100 nm and offers the best optical performance in its class. It is ideal for water analysis with commercial test kits as well as for industrial applications or education with comprehensive scan functions.

For measurements in UV-VIS range **190–1100 nm**

## photoLab® 6600 UV-VIS

SERIES

**photoLab® 6600 UV-VIS** with a wavelength range from 190 to 1100 nm fulfills all additional needs for the UV range. It is ideal for any application from routine test to research.

### Technical Data

|                      | photoLab® 6100 VIS                                                                                                                                                          | photoLab® 6600 UV-VIS |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Wavelength Range     | 320–1100 nm                                                                                                                                                                 | 190–1100 nm           |
| Technics             | Single beam with reference measurement via AutoCheck                                                                                                                        |                       |
| Lamp                 | Tungsten                                                                                                                                                                    | Xenon Flash           |
| Band width           | 4 nm                                                                                                                                                                        |                       |
| Measurement modes    | Concentration, absorbance, transmission, kinetics and spectra with absorbance and % transmission, multi wave length                                                         |                       |
| Spectra/Scans        | Scans in 1 nm steps for freely defined wave length range                                                                                                                    |                       |
| Barcode              | Automatic recognition of round and 10 mm, 20 mm and 50 mm cells                                                                                                             |                       |
| Cuvettes             | 16 mm round, rectangular 10 mm, 20 mm, 50 mm with automatic cell recognition w/o adapter                                                                                    |                       |
| Display              | Backlit Graphics Display for comprehensive data evaluation                                                                                                                  |                       |
| Data storage         | 1000 values; for spectra + kinetics approx. 4 MB = 100 spectra (300–900 nm) and 400 kinetics with 150 values                                                                |                       |
| Methods and profiles | over 150 methods, 100 user defined methods, 20 profiles each for kinetics + spectra                                                                                         |                       |
| Languages            | 20 languages                                                                                                                                                                |                       |
| Update               | via Internet, USB stick and photoLab® Data spectral                                                                                                                         |                       |
| Interface            | 1 x USB-A, 1 x USB-B, 1 x RS 232 for connection of USB stick, PC, printer, USB-Hub                                                                                          |                       |
| Protection class     | IP 30 and drain in optical compartments                                                                                                                                     |                       |
| Environment          | Operating temperatur: +10°C to + 35°C (41°F bis 95°F), storage: –25°C to +65°C (–13°F bis 268°F)<br>Humidity: 30 days/per year: 95%, other days: 85%, average per year: 75% |                       |
| Dimensions           | 404 x 197 x 314 mm (W x H x D)                                                                                                                                              |                       |
| Weight               | approx. 4 kg w/o power supply                                                                                                                                               |                       |
| Accessories          | photoLab® Data spectral for easy data evaluation; adapter 12 V for use with car battery                                                                                     |                       |

### Order Information

| Type                    | Description                                                                                                                                                    | Article no. |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| photoLab® 6100 VIS      | Spectral photometer for spectral and systematic analysis, range from 320 to 1100 nm                                                                            | 250201      |
| photoLab® 6600 UV-VIS   | Spectral photometer for spectral and systematic analysis, range from 190 to 1100 nm                                                                            | 250202      |
| photoLab® Data spectral | PC-Software for data management with photoLab® 6000/spectroFlex series.<br>System requirements: Windows 2000, XP, Vista and Windows 2003 Server, USB Interface | 902761      |