

## Sample analysis/Photometers

**1**


### 1 LLG Photometers PrimeLab 1.0

**The first and only photometer using just one LED and one (JENCOLOR) sensor, simultaneously covering 400 wavelengths in one go.**

The JENCOLOR sensor allows self-calibration of the unit in seconds. More than 100 test methods are available to be individually selected when device is purchased. User can choose to either use tablet, liquid or powder reagents. Users can create and export test reports per "account" via software and/or App, where it can also store individual water treatment chemicals to create dosage recommendations. Using the PrimeLab adapter for Turbidity (NTU), PTSA and Fluorescein, even those parameters can be tested by the PrimeLab whereas user normally needs to purchase a second device. A full range of available test information can be found at [www.primelab.org](http://www.primelab.org).

#### PrimeLab 1.0 Multitest Photometer BASIC-KIT 0-in-1

Without activated parameters and without reagents

#### PrimeLab 1.0 Multitest Photometer BASIC-KIT 3-in-1 (Chlorine/pH/Chlorine dioxide):

ID11 - Chlorine (free/combined/total) using DPD tablets

ID16 - Chlorine dioxide using DPD tablets

ID38 - pH using Phenol Red tablets

Reagent tablets to do 50 tests

**More combinations of measurement methods on request.**

#### PrimeLab 1.0 Multitest Photometer ALL-IN-KIT (all current and future parameters activated):

Contains the measurement methods of BASIC-SET 3-in-1 and same content as basic (over 100 parameters).

All available parameters are activated on the device and will be automatically added and activated while performing an update through PC-software or App.

**Please order reagents separately.**

#### Specifications

Optic:	JENCOLOR Multispectral sensor, covering 380 ... 780 nm
Connection:	Free PC software (windows) "PrimeLab Desktop Assistant" and free Android/iOS App
Calibration:	Auto-calibration function
One-Time-Zero:	Intelligent OTZ, based on chosen method
Time/date:	Real Time Clock with date and auto-off
Communication:	Bluetooth
Display:	LCD (monochrome)
Memory:	On device: 20 accounts/100 test results
Environment:	30 ... 90 % RH (non-condensing), ca. 5 ... 45 °C
Size (W x D x H):	180 x 90 x 60 mm
Weight:	160 g
Power supply:	4 x AAA batteries/5.0 V DC-adaptor with international adapter plugs
Warranty:	3 years

Description	PK	Cat. No.
Photometer, BASIC-KIT 0-in-1	1	<b>6.280 344</b>
Photometer, BASIC-KIT 3-in-1	1	<b>6.268 024</b>
Photometer ALL-IN-KIT	1	<b>6.268 025</b>

**2**


6.269 941

### Reagent sets tablets

WATER-i.d. GmbH

H phrases: EUH210

Description	Measuring range	No. of determinations	PK	Cat. No.
	mg / l			
DPD No. 1 / Chlorine free	0 - 8	50	50	<b>6.269 941 2</b>
DPD No. 3 / Chlorine (combined/total)	0 - 8	50	1	<b>6.281 708</b>
DPD No. 4 / Active oxygen (MPS)	0 - 10	50	50	<b>6.269 900</b>
Total alkalinity / Alkalinity-M	5 - 200	50	50	<b>6.269 901</b>
Total alkalinity / Alkalinity-M-HR	0 - 500	50	50	<b>6.269 902</b>
Total hardness LR / HR	2 - 500	50	50	<b>6.269 936</b>
Cyanuric acid / CYA test	0 - 160	50	50	<b>6.269 927</b>
Potassium	0.7 - 12	50	50	<b>6.269 943</b>
Hydrogen Peroxide LR	0 - 3.8	50	1	<b>6.269 981</b>
Universal pH (5 - 11)	-	50	50	<b>6.269 965</b>

### 1 Photometers MD 110



Photometer for the analysis of determined parameters in drinking, industrial and waste water. Different models are available for common analyses as well as for special applications.

- Ergonomic, waterproof design
- Accurate, reproducible measurement results
- User calibration and single point calibration
- Measurement results are displayed directly in ABS or %T
- Zero value remains valid for all tests with the same sample thanks to the one-time zero (OTZ) function
- Automatic storage of measured values with time and date stamp and optional data transfer (IRiM module)
- Bluetooth® interface
- Scroll memory
- Automatic shutdown
- Adjustment function display

**Scope of supply:** Photometer, carrying case, reagents for 100 tests, cuvettes, batteries, standard accessories

Further photometers available on request.

#### Specifications

Optics:	Highly precise interference filters, LED
Wavelengths:	530/560/610/430/580/660 nm
Wavelength accuracy:	±1 nm
Photometric range:	0.005 A
pH:	6.5 - 8.4
Data memory:	16 measurements
Dimensions (W x D x H):	75 x 155 x 35 mm
Weight:	260 g
Power supply:	4 x AAA micro batteries
IP code:	IP 68



**Attention**

H phrases: EUH210|H290|H315|H319|H226

Description	Measuring range	PK	Cat. No.
MD 110, chlorine, pH, cyanuric acid, reagent tablets	0.1 ... 10 mg/l Cl <sub>2</sub> 0.02 ... 4.0 mg/l Cl <sub>2</sub> 0.01 ... 6.0 mg/l Cl <sub>2</sub> 10 ... 160 mg/l CyA	1	6.312 492
MD 110, chlorine, pH, cyanuric acid, alkalinity-m, liquid reagents	5 ... 200 mg/l CaCO <sub>3</sub> 0.02 ... 4.0 mg/l Cl <sub>2</sub> 10 ... 160 mg/l CyA	1	4.678 235
MD 110 chlorine, bromine, pH, cyanuric acid, alkalinity-m, calcium hardness, reagent tablets	0.05 ... 13 mg/l Br <sub>2</sub> 0.1 ... 10 mg/l Cl <sub>2</sub> 0.02 ... 4.0 mg/l Cl <sub>2</sub> 0.01 ... 6.0 mg/l Cl <sub>2</sub> 10 ... 160 mg/l CyA 5 ... 200 mg/l CaCO <sub>3</sub> (TA) 20 ... 500 mg/l CaCO <sub>3</sub> (CaH)	1	4.678 236



**Danger**

H phrases: H290|H314|H410|H340|H350|EUH208|H302|H311|H373|H302+H332

Description	Measuring range	PK	Cat. No.
MD 110, CSB	200 ... 15000 mg/l	1	4.678 237



**Attention**

H phrases: H290|H315|H319|H226

Description	Measuring range	PK	Cat. No.
MD 110, chlorine, pH, cyanuric acid, liquid reagents	0.02 ... 4.0 mg/l Cl <sub>2</sub> 10 ... 160 mg/l CyA	1	4.678 233



### 1 Photometers MD 200

**NEW**  
Lovibond®

Benchtop devices suitable for mobile use. For precise water control through high-precision optics and high-quality interference filters with long-term stable LEDs as light sources.

- Automatic shutdown
- Real time clock and date
- Adjustment function display
- Illuminated LCD-display

Further photometer versions available on request.

#### Specifications

Measurement cycle:	approx. 3 seconds (method dependent)
Optics:	Temperature compensated LED and photosensor intensifier in a waterproof sample chamber
Keyboard:	4-key polycarbonate film, splashproof
Dimensions (W x D x H):	110 x 190 x 55 mm
Weight:	455 g
Power supply:	4 x AA
IP code:	IP 68
pH:	6.5 - 8.4

Lovibond®



#### Attention

H phrases: EUH210|H290|H315|H319|H226

Description	Measuring range	PK	Cat. No.
MD 200, Chlorine, pH, cyanuric acid, reagent tablets (OTZ)	0.01 ... 6.0 mg/l Cl <sub>2</sub> 0.1 ... 10.0 mg/l Cl <sub>2</sub> 0 ... 160 mg/l Cys	1	9.920 202
MD 200, Chlorine, pH, acid capacity KS4.3, reagent tablets (OTZ)	0.1 ... 10 mg/l Cl <sub>2</sub> 0.01 ... 6.0 mg/l Cl <sub>2</sub> 0.1 ... 4 mmol/l KS4.3	1	6.288 460
MD 200, Chlorine, chlorine dioxide, pH, acid capacity KS4.3, reagent tablets (OTZ)	0.01 ... 6.0 mg/l Cl <sub>2</sub> 0.02 ... 11 mg/l ClO <sub>2</sub> 0.1 ... 4 mmol/l KS4.3	1	4.678 240
MD 200, Chlorine, pH, cyanuric acid, alkalinity-m, calcium hardness, reagent tablets (OTZ)	0.01 ... 10.0 mg/l Cl <sub>2</sub> 0 ... 160 mg/l Cys 5 ... 200 mg/l CaCO <sub>3</sub> (TA) 0 ... 500 mg/l CaCO <sub>3</sub> (CaH)	1	6.205 840
MD 200, Chlorine, bromine, pH, cyanuric acid, alkalinity-m, calcium hardness, reagent tablets (OTZ)	0.01 ... 10.0 mg/l Cl <sub>2</sub> 0.05 ... 13 mg/l Br 0 ... 160 mg/l Cys 5 ... 200 mg/l CaCO <sub>3</sub> (TA) 0 ... 500 mg/l CaCO <sub>3</sub> (CaH)	1	7.910 013
MD 200, Ozone, reagent tablets	0.02 ... 2 mg/l O <sub>3</sub>	1	4.678 241
MD 200 Chlorine, pH, reagent tablets (OTZ)	0.01 ... 6.0 mg/l Cl <sub>2</sub> 0.1 ... 10.0 mg/l Cl <sub>2</sub>	1	6.238 112

Lovibond®



#### Danger

H phrases: H290|H302|H311|H314|H373|H410|H340|H350|EUH208|H302+H332

Description	Measuring range	PK	Cat. No.
MD 200, CSB, cuvette tests	200 ... 15000 mg/l	1	9.950 531

Lovibond®



#### Attention

H phrases: H290|H315|H319|H226

Description	Measuring range	PK	Cat. No.
MD 200, Chlorine, pH, cyanuric acid, liquid reagents for chlorine/pH (OTZ)	0.02 ... 4.0 mg/l Cl <sub>2</sub> 0 ... 160 mg/l Cys	1	6.700 320

Lovibond®



#### Attention

H phrases: EUH210|H226|H290|H315|H319

Description	Measuring range	PK	Cat. No.
MD 200, Chlorine, pH, cyanuric acid, acid capacity KS4.3, reagent tablets (OTZ)	0.1 ... 10 mg/l Cl <sub>2</sub> 0.01 ... 6.0 mg/l Cl <sub>2</sub> 10 ... 160 mg/l CyA 0.1 ... 4 mmol/l KS4.3	1	4.678 239

### 1 Photometer system MD 600/MD 610

**Modern, mobile photometers for rapid, reliable water testing**

Lovibond®

All important water analysis parameters from Aluminium to Zinc are covered by these two devices. Combined with the high precision of Lovibond® reagents, a reliable and quick analysis of water samples is guaranteed. Reagent tablets, powder reagents, liquid reagents, or cuvette tests are used depending on the method. Please order separately. Six long-lasting LEDs serving as a light source in combination with interference filters guarantee the highest precision. The devices are designed without moving optical parts and thus have a maintenance-free measuring unit. Up to 1000 data records can be stored in the MD 600, MD 610 stores 500 data records.

- Highest/reproducible precision with interference filter
- Display with background lighting
- More than 120 pre-programmed methods
- Automatic selection of wavelength
- User guidance in German, English, French, Spanish, Italian, Portuguese and Polish
- Buffer for up to 1000 data records
- More than 35 user-specific methods possible
- Waterproof housing (as defined in IP 68, 1 hour at 0.1 meter)
- Handheld format, portable

**MD 600 only:**

- Infrared interface

**MD 610 only:**

- Bluetooth interface for connection to smart phones and tablets
- Cost-free iOS®- and Android™-App for data management and email delivery

**Scope of supply:** The instrument is supplied complete and ready-to-use in a carrying case, incl. 4 batteries, 3 vials diam. 24 mm, 3 vials diam. 16 mm, 1 adapter each for 16 mm and 13 mm vials. Please order reagents separately.

**Specifications**

Optics:	High-quality Interference Filters
Power Supply:	4 batteries (Mignon AA/LR6)
Operation time:	approx. 26 hours; continuous operation or 3500 tests
Dimensions ( W x D x H):	approx. 210 x 95 x 45 mm (unit) approx. 395 x 295 x 106 mm (case)
Wavelengths:	530/560/610/430/580/660 nm
Wavelength Accuracy:	±1 nm
Photometric Accuracy:	0.005 A

Type	PK	Cat. No.
MD 600	1	9.699 235
MD 610	1	9.699 237



### 2 Waste Water Set-Up MD 610

**NEW**  
Lovibond®

Flexible wastewater measuring station with mobile photometer MD 610 and thermoreactor RD 125, complete with reagents for COD measurement and the appropriate accessories. With the MD 610, the measurement results of the wastewater can be called up and evaluated on a smartphone or tablet. The RD 125 thermoreactor is equipped with 24 holes for 16 mm cuvettes.

- Data transfer via Bluetooth® and AquaLX® app
- Interference filter for increased reproducibility of the results
- Memory for 500 measurement results
- 120 pre-programmed methods

**Scope of supply:** Photometer MD 610, standard accessories, Thermoreactor RD 125, Cuvette tests: COD (0 ... 150 mg/l, 0 ... 1500 mg/l, ammonium VARIO HR (1 ... 50 mg/l N), nitrate VARIO (1 ... 30 mg/l N), nitrite LR VARIO Powder Pack (0.01 ... 0.3 mg/l N), nitrogen VARIO Total HR (5 ... 150 mg/l N), phosphate VARIO Total HR (0.02 ... 1 mg/l P/0.06 ... 3.5 mg/l PO<sub>4</sub>), cuvette stand, membrane filtration set, operating instructions, warranty declaration



H phrases: H272|H302|H315|H319|H334|H317|H335|H318|EUH031|H290|H314|EUH210|H412

Type	PK	Cat. No.
MD 610	1	4.678 232





### 1 Photometer system MultiDirect

Lovibond®

With Dual Beam Technology. The MultiDirect is a modern, microprocessor-controlled photometer with ergonomically designed keypad and large-format graphic display. It is equipped with a wide range of pre-programmed methods (e.g. ammonia, COD, phosphate) based on the proven range of Lovibond® tablet reagents, liquid reagents, vial tests and powder reagents. The calibration and software-supported control options mean that the unit is also suitable for use as a testing instrument. The seven standard rechargeable batteries (supplied) ensure easy mobile use.

- Wide range of pre-programmed methods
- Large, graphics display
- RS232 interface
- Suitable for use with standard rechargeable batteries
- Updates for new methods and languages via the Internet
- 1000 data set memory
- Custom method recall is also possible

**Scope of supply:** MultiDirect, ready-to-use incl. 7 x rechargeable batteries and battery charger for 100 - 240 V, 3 each 24 mm and 16 mm cuvettes, 16 mm cuvette adapter, 3 x syringes, 1 x 100 ml plastic beaker and case with waterproof insert. **Without reagents and without battery** (please order separately).

**Verification Standard Kit:** The verification standard kit for the MultiDirect is designed to reassure the user about the accuracy and the reliability of the results. The shelf life of the standard kit is two years from the date of production, provided that storage and use are in accordance with the instructions provided. Measurements are taken in mAbs.

#### Specifications

Optics:	Dual-Beam Technology, High-quality Interference Filters
Measuring time:	approx. 10 seconds
Power supply:	7 Ni-MH-battery pack (1.5 V AA), charged in the unit using external power pack
Dimensions (W x D x H):	265mm x 70mm x 195mm
Ambient operating conditions:	up to max 90 % humidity (non condensing), approx. 5 ... 40 °C
Approval:	CE
Wavelengths:	430/ 530/ 560/ 580/ 610/ 660 nm

Type	PK	Cat. No.
MultiDirect	1	9.699 230

We can **supply** this  
**manufacturer's**  
**whole**  
**product range !**



### Spectrophotometers XD 7000 VIS and XD 7500 UV-VIS

UV-VIS and VIS spectrophotometers with dual beam optics. The instruments benefit from a barcode test recognition system, over 150 pre-programmed analytical methods and automatic cuvette detection. Analytical quality assurance procedures include checks of the photometer, the total system (including methods) and sample matrix effects. Further functions of the spectrophotometers include measurement of transmission and absorbance, scanning of spectra, kinetics analysis and creation of user-defined methods.

Lovibond®



6.272 436

- Premium optical system with reference beam
- Automatic test recognition with internal barcode reader
- Supports round cuvettes with 13, 16, 24 mm and rectangular cuvettes with 10, 20, 50 mm
- Automatic cuvette type detection
- More than 150 analytical methods implemented
- 7" colour display and keypad
- Ethernet, USB
- 20 user profiles possible
- Up to 1000 user programmes
- Creation of up to 100 further user-defined methods
- Password protection possible

#### Specifications

Optical System:	XD 7000 VIS // XD 7500 UV-VIS
Wavelength range:	grid monochromator with reference beam
Bandwidth:	320 - 1100 nm // 190 - 1100 nm
Wavelength accuracy:	4 nm
Wavelength repeatability:	±1 nm on all Holmium peaks
Photometric range:	better than 0.5 nm
Photometrical resolution/Transmission:	-3.3 to +3.3 Abs
Photometric accuracy/repeatability:	0.001 Abs/0.1 %
	0.003 Abs below 0.6 Abs
	0.5 % from 0.6 to 2.0 Abs
Photometrical linearity:	<1 % up to 2.0 Abs between 340 to 900 nm
Drift:	<0.005 Abs per hour after 15 minutes heat up time
Internal Storage:	40 MB for approx. 5000 data sets
Lamps:	Tungsten-halogen-lamp // Xenon flash lamp
Dimension (W x D x H):	422 x 323 x 195 mm
Weight:	approx. 4.5 kg
Power supply:	100 - 240 V, 50/60 Hz
Protection class:	IP 30

Type	PK	Cat. No.
XD 7000 VIS	1	6.272 436 <b>1</b>
XD 7500 UV-VIS	1	6.272 437

### 2 Reagent Tablets for Photometers Lovibond®



Attention

Lovibond®

H phrases: H319

Type	For	PK	Cat. No.
DPD No. 3 HR	Chlorine HR	100	4.652 757
DPD No. 1	Rapid	100	6.700 621
DPD No. 1	Rapid	250	6.802 151
DPD No. 1	Rapid	500	6.090 190
DPD No. 1	Bromine, Chlorine, Chlorine dioxide	100	9.947 065
DPD No. 1	Bromine, Chlorine, Chlorine dioxide	250	9.947 066
DPD No. 1	Bromine, Chlorine, Chlorine dioxide	500	9.947 067
DPD No. 3	Rapid	100	6.204 073
DPD No. 3	Rapid	250	6.802 152
DPD No. 3	Rapid	500	6.090 191
DPD No. 3	Chlorine	100	9.947 071
DPD No. 3	Chlorine	250	9.947 072
DPD No. 3	Chlorine	500	6.081 229
DPD (Ness) No. 1	Chlorine	100	9.947 079
DPD (Ness) No. 1	Chlorine	250	6.202 427
DPD (Ness) No. 2	Chlorine	100	9.947 080
DPD (Ness) No. 3	Chlorine	100	9.947 081
DPD (Ness) No. 3	Chlorine	250	6.259 802
DPD (Neutral) No. 2	Chlorine	100	9.947 069
DPD (Neutral) No. 2	Chlorine	250	9.947 070
DPD No. 1	High Calcium	100	6.201 659
DPD No. 1	High Calcium	500	7.652 409
DPD No. 3	High Calcium	100	7.661 450
DPD (Rapid) No. 4	Rapid	100	6.803 289
DPD (Rapid) No. 4	Rapid	500	7.662 035
DPD No. 4	Chlorine	100	9.947 073
DPD No. 4	Chlorine	250	9.947 074
DPD No. 4	Chlorine	500	6.802 774



Further products can be found in our online shop.



## Sample analysis/Photometers



### 1 Reagent Tablets for Photometers Lovibond®

Lovibond®


**Attention**

H phrases: H317|H319

Type	For	PK	Cat. No.
Alka-M / Photometer	Alkalinity-M	100	<b>6.203 284</b>
Aluminium No. 1	Aluminium	100	<b>6.206 570</b>
Glycine	Glycine	100	<b>6.204 189</b>
Chlorine HR (Kj)	Chlorine	100	<b>9.947 075</b>
Chlorine HR (Kj)	Chlorine	250	<b>9.947 076</b>
CyA-Test	Cyanuric acid	100	<b>6.204 477</b>
CyA-Test	Cyanuric acid	250	<b>6.205 791</b>
Iron LR	Iron	100	<b>9.947 100</b>
Iron LR	Iron	250	<b>9.947 101</b>
Hardcheck P	Hardness total	100	<b>6.801 459</b>
Combi pack DPD No. 1 / No. 3	Chlorine	200	<b>6.233 306</b>
Combi pack DPD No. 1 / No. 3	Chlorine	500	<b>6.236 962</b>
Copper/Zinc HR	Zinc	100	<b>9.947 130</b>
Copper/Zinc HR	Zinc	250	<b>9.947 131</b>
Phenolred / Photometer	Phenol red	100	<b>6.300 331</b>
Phenolred / Photometer	Phenol red	250	<b>6.202 544</b>
Phenolred / Photometer	Phenol red	500	<b>6.082 435</b>
Phenolred (Rapid)	Phenol red	250	<b>6.802 153</b>
Phenolred	Phenol red	100	<b>6.801 056</b>
Phenolred	Phenol red	250	<b>6.205 269</b>
Phenolred	Phenol red	500	<b>7.601 956</b>
Buffer tablets	Buffer	100	<b>6.801 670</b>
Buffer tablets	Buffer	100	<b>6.801 671</b>
Copper No. 1	Copper	100	<b>6.203 226</b>

**Further products can be found in our online shop.**


### 2 Reagent solutions for photometers Lovibond®

Lovibond®

Solution with 15 ml or refill bottle with 100 ml.


**Attention**

H phrases: H290|H315|H319

For	Description	Colour	PK	Cat. No.
Chlorine	DPD No. 1	green	1	<b>6.057 943</b>
Chlorine	DPD No. 1*	green	1	<b>7.510 823</b>
Chlorine	DPD No. 1	blue	1	<b>6.058 068</b>
Chlorine	DPD No. 1*	blue	1	<b>7.510 822</b>
Chlorine	DPD No. 3	red	1	<b>6.057 944</b>
Chlorine	DPD No. 3*	red	1	<b>6.203 285</b>

\* Refill bottle



### 3 Reagents VARIO for Photometer Lovibond® and HACH®

Lovibond®

Suitable for Lovibond® Photometers as well as for Photometers of company HACH®\*


**Danger**

H phrases: H302|H318|H319|H314|H412

For	Measuring range mg / l	HACH® Method No.	PK	Cat. No.
Ammonium Vial Test LR	0.02-2.5	10023	50	<b>6.204 985</b>
Ammonium Vial Test HR	0.4-50	10031	50	<b>6.204 108</b>
Free Chlorine DPD	0.02-2	8021	100	<b>6.203 803</b>
Total Chlorine DPD	0.02-2	8167	100	<b>6.802 999</b>
Free Chlorine DPD	up to 3.5	-	100	<b>6.236 015</b>
Total Chlorine DPD	up to 3.5	-	100	<b>6.236 016</b>

\*HACH® is a registered trademark of HACH® Company, Loveland, Colorado. Using brand HACH® contains no indication of a connection to this company or to a possible agreement of HACH® Company to composition, examination or suitability for use in spectrophotometers or other equipment or systems, which are sold under the brand HACH®.

**Further products can be found in our online shop.**


### 4 Cuvettes for photometers

Lovibond®

Type	Diam. mm	Description	PK	Cat. No.
Set of 5 round cuvettes with cap	24	24 mm dia.	5	<b>6.230 635</b>
Set of 10 round cuvettes with cap	16	16mm dia.	10	<b>9.699 240</b>
Set of 12 round cuvettes with cap	24	24mm dia.	12	<b>9.699 231</b>

### Handheld photometers pHotoFlex® series, with/without pH and turbidity measurement

Handheld photometers for use in a wide range of areas such as process control, mobile water testing or wine industry. Easy operation with menu driven, user guidance.

WTW®

- Smart cuvette adapter: holds 28 mm or 16 mm round cuvettes with height 91 to 104 mm; to be used with a variety of different test types
- Optics: LED's with filters, accuracy < 2 nm
- Available wavelengths: 436 nm, 517 nm, 557 nm, 594 nm, 610 nm and 690 nm
- Concentration, Absorption, Transmission
- Methods can be downloaded from the Internet
- 35 (pHotoFlex® STD) 100 user defined routines
- 100 (pHotoFlex® STD)/1000 data sets, RS 232 interface
- pH range: pH 0 to 16.00 (±0.01) for DIN standard combination electrodes
- incl. calibration interval and calibration protocol
- Batteries: 4 button cells

Optional: LabStation with rechargeable battery and power plug, GLP-compliant software LSdata for simplified laboratory evaluation and operation, charging function; accu and power supply separately. LSdata is also available as stand-alone package

- IP code IP 67

#### pHotoFlex® STD

Water Analysis purely w/o pH- and turbidity measurement for standard parameters

#### pHotoFlex® pH

Just like the standard version of pHotoFlex STD plus full electrochemical pH-and ORP measurement via electrodes. This allows also the measurement of the parameters NH<sub>3</sub> and CO<sub>2</sub>.

- pH 0 ... 16.00 (±0.01) for Standard-DIN pH-electrodes with automatic temperature compensation ATC and automatic buffer recognition
- Calibration interval setting and calibration record
- 1-3 point calibration

#### pHotoFlex® Turb:

Generally as pHotoFlex® STD, with additional turbidity measurement:

- IR light source acc. DIN 27027 /ISO 7027
- Measuring range: 0 to 1100 NTU/FNU
- Resolution: 0 to 9.99 NTU: 0.01; 10 to 99 NTU: 0.1; 100 to 1100 NTU: 1NTU
- Accuracy: 0.01 NTU or 2% of measured value
- 3 point calibration
- Standard set with traceable AMCO® Standards (0.02 - 10 - 1000 NTU)

#### Complete pHotoFlex® Sets:

The mobile laboratory: smart with integrated lab table to hold instrument, cuvettes, beaker and stand for pH electrode.

Complete sets with:

- pH electrode SenTix 41 with technical buffers
- 1 adjustable pipette with 5ml volume for pHotoFlex® models
- Calibration standard kit for pHotoFlex® Turb and Turb® 40 IR/T

#### pHotoFlex® pH Set:

Field case with pHotoFlex®, table insert, pH electrode Sentix® 41 and stand, TEC buffer, 5 ml variable pipette, and accessories, PC cable and LSdata software.

#### pHotoFlex® Turb Set:

Field case with pHotoFlex® Turb, table insert, pH electrode Sentix® 41 and stand, TEC buffer, 5 ml variable pipette, and accessories, PC cable and LSdata software.



9.923 625



9.923 601

Type	PK	Cat. No.
pHotoFlex® STD	1	9.923 624
pHotoFlex® pH	1	9.923 625 1
pHotoFlex® Turb	1	9.923 626
pHotoFlex® pH Set	1	9.923 601 2
pHotoFlex® Turb/Set	1	9.923 602



## Sample analysis/Photometers

1



### 1 Photometer photoLab® S6 and S12 - Filter photometer

High-precision, laboratory photometers with multilevel AQA/IQC functions. Features easy operation, GLP-conforming documentation, simultaneous turbidity compensation: open cover, place cell, measure! Automatic selftest and zeroing of the optical systems during start up. AutoSelect for cuvettes recognition via barcode; all necessary settings automatically of more than 150 programmed methods with automatic cuvette detection. Unique barcode-support for 10, 20 und 50 mm cuvette for high quality and economic reagent test kits. The RS232 interface transfers data to the user's PC. With real time clock and memory (incl. date/time) for 500 (S6) or 1000 (S12) data records. To be used with 16mm round cells and rectangular cells (only S12) 10, 20 and 50mm path length. Autozeroing. CE, UL, CUL tested.

WTW®

#### photoLab® S6

With 6 interference filters for 340/445/525/550/605/690 nm ±2 nm.  
For routine applications with round cuvettes in waste water analysis.

#### photoLab® S12

With 12 interference filters ±2 nm. Wavelength according to S6 with additional filters for 410/500/565/620/665/820 nm. All test kits can be used (round cuvettes and reagent test kits), 50 user defined methods, Kinetic functions.

Type	Description	PK	Cat. No.
photoLab® S6	Mains version, 220 V European plug	1	9.923 631
photoLab® S6-A	Rechargeable battery version, 220 V European plug	1	9.923 632
photoLab® S12	Mains version, 220 V European plug	1	9.923 635
photoLab® S12-A	Rechargeable battery version, 220 V European plug	1	9.923 636
LP 6/12	Spare lamp for S6, S12	1	9.923 638

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### 2 Cells for Photometer photoLab®

Cuvettes for photometric routine and water analytics in the UV-VIS and VIS range. Cells with matt side surface are suitable for the automatic cell detection of the photoLab® filter and spectral photometer. The glass and quartz cuvettes have a marking in order to place the cuvettes into the photometer in the same direction for an even higher precision.

WTW®

- Automatic cell detection
- Glass and quartz cells with marking for higher precision
- High quality optical glass for VIS
- High quality quartz glass for UV-VIS

Description	Material	Path length	PK	Cat. No.
		mm		
Round cells, empty		16	25	7.008 397
Rectangular cells	optical glass	10	2	7.300 132
Rectangular cells	Quarz	10	1	6.241 036
Disposable cells	PMMA	10	100	7.653 830
Rectangular cells	optical glass	20	2	7.510 080
Rectangular cells	Quarz	20	1	6.241 035
Rectangular cells	optical glass	50	1	7.200 109
Rectangular cells	Quarz	50	1	6.241 034

We can **supply** this  
**manufacturer's**  
**whole**  
**product range !**



### Spectrophotometer photoLab® 7100 VIS and photoLab® 7600 UV-VIS with OptRF

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WTW®



6 268 620

#### COD measurement without reagents.

The spectrophotometer of the photoLab® 7000 Series are universally usable and offer complete photometric functionality with lauded user-interface and guidance on a brilliant HD 7" color display. Pioneering is the optical reagent-free measurement (OptRF) of COD, Nitrate and Nitrite. No time-consuming digestion and no harmful chemicals required.

- Proven routine analysis for waste and drinking water, aquaculture, food & beverage, environmental monitoring and production
- Cost saving reagent-free OptRF measurement
- Universal for industrial, research and educational use
- Lab quality in the field: 4.5 kg light weight, with car battery and field case option
- Linking lab with Online-system WTW® IQ SENSORNET via IQ LabLink
- For 16 mm round cuvettes and 10, 20 and 50 mm rectangular cuvettes with automatic recognition
- Memory for 5000 values, spectra and kinetics approx. 40 MB, equivalent to approx. 500 spectra (300-900 nm) and 400 kinetics with 150 measured values
- More than 200 programmed methods, 1000 user defined methods, 20 profiles each for kinetics and absorption spectrum, extensive programming options

#### Routine Analysis:

- More than 250 programs for commercial test kits, standard parameters, direct readings of coloration, SAK, etc. as well as user-defined programming of routines
- Barcode recognition for tests in vials and rectangular cells and automatic cell recognition for 16, 10, 20 and 50 mm without adapter and automatic measurement range selection
- Up to three parallel timers
- Optional PC-Software Package for Brewery and color measurement from CIE to Yellowness

#### Spectral and universal analysis from 190 to 1100 nm:

- Spectral scans in various nm-steps, 700-2000 nm/min
- Kinetics and multi-wavelength readings including special methods like chlorophyll and ADMI color measurement
- Extensive programming tools for multistep and multi-wavelength functions with user guidance

**AQA:** Multi-level user-friendly AQA functions with administration tools and comprehensive checking aids for meter and reagents.

#### Data Management:

- Measurement data, PDF documents, spectra and kinetics data, with data filter for pre-selected data management
- External barcode reading option for uncoded test kits and sample ID
- Optional: PC-Software for GLP compliant data management

#### Specifications

Optics:	Split beam
Wavelength range:	320 to 1100 nm (VIS)/190 to 1100 nm (UV-VIS)
Bandwidth:	4 nm
Lamp:	Tungsten Halogen (VIS)/ Xenon Flashlamp (UV-VIS)
Display:	Colour, 7" backlit
Wavelength accuracy / reproducibility:	±1 nm/<0.5 nm (VIS and UV-VIS)
Photometric accuracy / reproducibility:	-0.003 E for E < 0.600/0.5 % of values for 0.600
Interface/Update:	1 USB-A, 1 USB-B, 1 Ethernet/Update via Internet and USB-Stick
Temperature range:	Operation: +10 °C to +35 °C, Storage: -25 °C to +65 °C
Dimensions (W x D x H):	404 x 314 x 197 mm
Weight:	approx. 4.5 kg
IP code:	IP 30

Type	Description	PK	Cat. No.
photoLab® 7100 VIS	Routine and Spectral analysis 320-1100 nm	1	6.268 619
photoLab® 7600 UV-VIS	Routine and Spectral analysis with OptRF, 190-1100 nm	1	6.268 620 1
photoLab® Brew	Application package brewery analysis for the photoLab® 6000/7000 Series	1	9.920 080
photoLab® color+ Data spectral	PC software for data management of photoLab® 6000/7000 Series	1	6.284 662

## Sample analysis/Photometers

**1**

**1 Photometer photoLab® and photoFlex®, stored test programs**
**NEW**  
 WTW®

- A: Stored in photoLab® S6, S12, photoLab® 6000/7000 Series and photoLab® Spectral  
 B: Stored in photoLab® S12, photoLab® 6000/7000 Series and photoLab® Spectral  
 C: Stored in photoFlex® STD, photoFlex® pH and photoFlex® Turb  
 D: Stored in photoLab® 6000/7000 series

**Reagent-free tests:**

- COD, Nitrate, Nitrite optical reagent-free measurement in sewage plant outlets  
 Cu - copper plating bath, 690 nm, 820 nm - copper plating bath - B  
 CrO<sub>3</sub> - chromium plating bath - chromium plating bath - B  
 Ni - nickel plating bath - nickel plating bath - B  
 HZ - Hazen colour - Hazen colour - B  
 IFZ - iodine number, 340 nm, 455 nm - iodine number - B  
 m-1 (DFZ) - colouring - FB445 - B, C  
 m-1 (DFZ) - colouring - FB525 - A, C  
 m-1 (DFZ) - colouring - FB620 - B, C  
 FAU - turbidity 620 - T620 - B  
 E - extinction - extinction - A, B, C  
 SAK - Spectral absorption coefficient at 254 and 436 nm photoLab® 6100 VIS (436nm) and photoLab® 6600 UV-VIS (254/436 nm)

**Further tests and checking aids like standards and reagent solutions for the instruments on demand, range information is based on max. range and can also be smaller for photoFlex®.**

**All stored test sets for the photoLab® and photoFlex® photometers can be found in our online shop. Ordering information for all the articles described above and for other articles can be found online.**


**Danger**

H phrases: H290|H302|H311|H314|H373|H412

Type	For	Description	Measuring range	No. of determinations	PK	Cat. No.
			<b>mg / l</b>			
14544	A, C	NH <sub>4</sub> -N, Ammonium	0.5 - 16.0 mg/l	25	1	9.920 927
14825	B, C	Al, Aluminium	0.02 - 1.20	300	1	9.920 906
14560	A	COD-O <sub>2</sub> , COD	4.0 - 40.0	25	1	9.920 880
14690	A, C	COD-O <sub>2</sub> , COD	50 - 500	25	1	9.920 934
14895	A, C	COD-O <sub>2</sub> , COD	15 - 300	25	1	9.920 936
C3/25	A, C	COD-O <sub>2</sub> , COD	10 - 150	25	1	9.920 956
01744	A	pH	6.4 - 8.6 pH	280	1	9.920 945
Cl-3 TP	C, D	Cl <sub>2</sub> , Total chloride	0.00 - 2.00	100	1	9.920 864
Cu-1 TP	C, D	Cu, Copper	0.00 - 5.00	100	1	9.920 862
14553	A, C	Cu, Copper	0.05 - 8.00	25	1	9.920 887
14767	B, C	Cu, Copper	0.02 - 6.00	250	1	9.920 916
14394	B	SO <sub>3</sub> , Sulfite	1.0 - 20.0 mg/l	25	1	9.920 900
14896	C	Fe, Iron	1.00 - 50.00	25	1	9.920 918
01746	B	SO <sub>3</sub> , Sulfite	1.0 - 60.0 mg/l	150	1	9.920 948
00809	A,C	F, Fluoride	0.10 - 1.80	25	1	9.920 966

