The MD 100 uses high quality interference filters with long-life LEDs as a light source in a transparency sample chamber.

The units supply accurate, reproducible results very quickly. Other major advantages include ease of operation, ergonomic design, compact dimensions and safe handling.

Using an internal ring memory the last 16 data sets are stored automatically with date, time, parameter and measurement value.

The tests are conducted using either Lovibond® tablet reagents, with long-term stability and a guaranteed minimum 5 or 10 year shelf life, VARIO powder reagents or using liquid reagents.

Scroll Memory

To avoid unnecessary scrolling for the required test method, the instrument memorizes the last method used before switching off the instrument. When the instrument is switched on again, the scroll list comes up with the last used test method first.

Zero Setting (OTZ)

It is not necessary to zero the instrument each time. The zero setting is held in memory until the device is turned off (**O**ne **T**ime **Z**ero - **OTZ**). The zero setting can be confirmed whenever it is required.

MD 100 Photometer

Precise Water Analysis in Ergonomic Design



Highlights

- Scroll memory
- Automatic switch-off
- Real-Time-Clock and date
- Calibration mode indicator
- Backlit display
- Storage function
- One Time Zero (OTZ)
- infrared interface module
- Waterproof*)

*) as defined in IP 68, 1 hour at 0.1 meter

2in1

Test	Code
MD 100 Chlorine, pH tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 6.5 - 8.4 pH	27 80 20
MD 100 Chlorine, pH, liquid reagent 0.02 - 4 mg/l Cl_2 / 6.5 - 8.4 pH	27 80 25
MD 100 Chlorine, pH powder reagents for chlorine 0.02 - 2.0 mg/l Cl_2 (ø 24 mm glass vial) 0.1 - 8.0 mg/l Cl_2 (ø 10 mm multi vial-2) 6.5 - 8.4 pH	27 80 30

3in1

Test	Code
MD 100 Chlorine, pH, Cyanuric Acid tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 6.5 - 8.4 pH ; 0 - 160 mg/l cyanuric acid	27 80 10
MD 100 Chlorine, pH, Cyanuric Acid liquid reagent for chlorine and pH 0.02 - 4 mg/l Cl_2 / 6.5 - 8.4 pH 0 - 160 mg/l cyanuric acid	27 80 15
MD 100 Chlorine, pH, Alkalinity-M (total) tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 6.5 - 8.4 pH ; 5 - 200 mg/l $CaCO_3$ (TA)	27 80 60
MD 100 Chlorine, pH, Alkalinity-M (total) liquid reagent for chlorine and pH 0.02 - 4 mg/l Cl_2 / 6.5 - 8.4 pH 5 - 200 mg/l $CaCO_3$ (TA)	27 80 65

4in1

Test	Code
MD 100 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 6.5 - 8.4 pH ; 0 - 160 mg/l cyanuric acid 5 - 200 mg/l $CaCO_3$ (TA)	27 80 70
MD 100 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) liquid reagent for chlorine and pH 0.02 - 4 mg/l Cl_2 / 6.5 - 8.4 pH 0 - 160 mg/l cyanuric acid / 5 - 200 mg/l $CaCO_3$ (TA)	27 80 75

5in1

Test	Code
MD 100 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total), Calcium hardness tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 6.5 - 8.4 pH ; 0 - 160 mg/l cyanuric acid 5 - 200 mg/l $CaCO_3$ (TA) ; 0 - 500 mg/l $CaCO_3$ (CaH)	27 80 80

6in1

Test	Code
MD 100 Chlorine, Bromine, pH Cyanuric Acid, Alkalinity-M (total), Calcium hardness tablet reagents 0.01 - 6.0 mg/l Cl_2 / 0.1 - 10 mg/l Cl_2* 0.05 - 13 mg/l Br ; 6.5 - 8.4 pH 0 - 160 mg/l cyanuric acid 5 - 200 mg/l $CaCO_3$ (TA) ; 0 - 500 mg/l $CaCO_3$ (CaH)	27 80 90

* Delivery without reagents for measuring range 0.1 - 10 mg/l Cl_2

Please see pages 50 onwards for reagents (order codes)

Data Transfer

The optional available IRiM (infrared interface module) uses infrared technology to transmit measurement data from the MD 100 photometer to one of 3 optional interfaces. These interfaces can be used to connect to a PC, a USB printer 1) or alternatively a serial printer 2).

The unit is supplied complete with data logging software providing easy and rapid transfer of data to the PC. As an option the data can be saved as an Excel sheet or a .txt file.

Measurement data can quickly be printed out, using a specified1) USB or alternatively a printer with a serial plug-in connected to the IRiM. Applicable for the following operating systems: Windows® XP, Windows® Vista and Windows® 7/10.

[1] USB-printer: HP Deskjet 6940 ; [2] each ASCII Drucker









Technical Data

Optics	LEDs, interference filters (IF) and photo sensor in transparent sample chamber. Depending on the version, up to 3 different interference filters are used. Wavelength specifications of interference filters: 430 nm Δ λ = 5 nm 530 nm Δ λ = 5 nm 560 nm Δ λ = 5 nm 580 nm Δ λ = 5 nm 610 nm Δ λ = 6 nm 660 nm Δ λ = 5 nm
Wavelength Accuracy	± 1 nm
Photometric Accuracy[4)]	3 % FS (T = 20 °C – 25 °C)
Photometric Resolution	0.01 A
Power Supply	4 micro batteries (AAA), capacity approx. 17 hours or aprox. 5000 tests in continuous operation with the display lighting switched off
Auto - OFF	automatic switch-off
Display	backlit LCD (on keypress)
Storage	internal ring memory for 16 data sets
Interface	infrared interface for test data transfer
Additional feature	real time clock and date
Calibration	factory calibration and user calibration. Reset to factory calibration possible
Dimensions	155 x 75 x 35 mm (L x W x H)
Weight	basic unit approx. 260 g
Environmental conditions	temperature: 5 – 40 °C rel. humidity: 30 – 90 % (non condensing)
Approval	CE

[4)] tested with standard solutions

Accessories

Item	Code
Set of 12 round vials with lids Height 48 mm, Ø 24 mm	19 76 20
Set of 5 round vials with lids Height 48 mm, Ø 24 mm	19 76 29
Set of 12 plastic vials (PC), with lid **"Multi"-Type 2**, Ø 10 mm	19 76 00
Vial stand for 6 round vials Ø 24 mm, acrylic glass	41 89 51
Cleaning cloth for vials	19 76 35
Measuring beaker, volume 100 ml	38 48 01
Cleaning brush, 11 cm length	38 02 30
Plastic stirring rod, 13 cm length	36 41 00
Plastic stirring rod, 10 cm length	36 41 09
4 micro batteries (AAA)	19 50 026
Infrared data transfer module IRiM	21 40 50

Delivery Content

- Instrument in carrying case
- 4 micro batteries (AAA)
- 3 round vials (glass) with lids
- 1 stirring rod & 1 brush
- Tablet reagents and/or liquid reagents or VARIO Powder reagent
- Warranty information
- Certificate (Certificate of Compliance)
- Instruction Manual

Verification Standard Kit

The verification standard kit for the MD 100 is designed to assure the user of the accuracy and the reliability of the results related to the integrated wave lengths. The kit contains one zero standard, 6 different vials for checking 6 different wave lengths and allows for checking the complete range of MD 100 photometers. The shelf life of the verification 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.

Verification Standard Kit 21 56 70



Reference Standard Kits

The reference standards are designed to check the accuracy and the reliability of the results.

It is not possible to calibrate the photometer with the reference standards.

The shelf life of reference standards is two years from the date of production, provided that storage and use are in accordance with the instructions provided.

Kit Chlorine for instruments with tablet / liquid reagent 0.2* and 1.0* mg/l 27 56 50

Kit Chlorine for instruments with tablet / liquid reagent 0.5* and 2.0* mg/l 27 56 55

Kit Chlorine for instruments with tablet / liquid reagent 1.0* and 4.0* mg/l 27 56 56

Kit Chlorine for instruments with powder reagent (VARIO) 0.2* and 1.0* mg/l 27 56 60

Kit pH for instruments with tablet / liquid reagent 7,45* pH 27 56 70





Manufacturers Test Certificate M

Besides the "Certificate of Compliance" which is supplied with the MD 100, manufacturers test certificates M are available at cost on request. Manufacturers test certificates M are individually supplied per instrument and per method.

The manufacturers test certificate M has to be ordered together with the new instrument and cannot be delivered at a later stage.

* Approximate figure, actual figure specified in certificate of analysis enclosed

Please see pages 50 onwards for reagents (order codes)

MD 110 Photometer

Photometer with **Bluetooth®** Technology



Highlights

- Scroll Memory
- Automatic switch-off
- Real-Time- Clock and date
- Calibration mode indicator
- backlit display
- Storage function
- One Time Zero (OTZ)
- Bluetooth®- Interface
- Waterproof*)

*) as defined in IP 68, 1 hour at 0,1 meter

Delivery Content

- Instrument in carrying case
- 4 micro batteries (AAA)
- 3 round vials (glass) with lids
- 1 stirring rod & 1 brush
- Tablet reagents and/or
  liquid reagents or
  VARIO Powder reagent
- Warranty information
- Certificate
  (Certificate of Compliance)
- Instruction Manual

Technical Data

Optics	LEDs, interference filters (IF) and photo sensor in transparent sample chamber. Depending on the version, up to 3 different interference filters are used. Wavelength specifications of interference filters: 430 nm Δ λ = 5 nm 530 nm Δ λ = 5 nm 560 nm Δ λ = 5 nm 580 nm Δ λ = 5 nm 610 nm Δ λ = 6 nm 660 nm Δ λ = 5 nm
Wavelength Accuracy	± 1 nm
Photometric Accuracy[4)]	3 % FS (T = 20 °C – 25 °C)
Photometric Resolution	0.01 A

Power Supply	4 micro batteries (AAA), capacity approx. 17 hours or aprox. 5000 tests In continuous operation with the display lighting switched off
Auto - OFF	automatic switch-off
Display	backlit LCD (on keypress)
Storage	internal ring memory for 16 data sets
Interface	**Bluetooth®** interface for test data transfer
Additional feature	real time clock and date
Calibration	factory calibration and user calibration. Reset to factory calibration possible
Dimensions	155 x 75 x 35 mm (L x W x H)

Weight	basic unit approx. 260 g
Environmental conditions	temperature: 5 – 40 °C rel. humidity: 30 – 90 % (non condensing)
Approval	CE

[4)] tested with standard solutions

3in1

Test	Code
MD 110 Chlorine, pH, Cyanuric Acid tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 6,5 - 8,4 pH/ 0 - 160 mg/l cyanuric acid	29 80 102
MD 110 Chlorine, pH, Cyanuric Acid liquid reagent for chlorine and pH 0,02 - 4 mg/l Cl_2 / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid	29 80 152

4in1

Test	Code
MD 110 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 6,5 - 8,4 pH / 0 - 160 mg/l cyanuric acid 5 - 200 mg/l $CaCO_3$ (TA)	29 80 702
MD 110 Chlorine, pH, Cyanuric Acid, Alkalinity-M (total) liquid reagent for chlorine and pH 0,02 - 4 mg/l Cl_2 / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid / 5 - 200 mg/l $CaCO_3$ (TA)	29 80 752

6in1

Test	Code
MD 110 Chlorine, Bromine, pH, Cyanursäure, Alkalinity-M (total), Calcium hardness tablet reagents 0,01 - 6,0 mg/l Cl_2 / 0,1 - 10 mg/l Cl_2* 0,05 - 13 mg/l Br / 6,5 - 8,4 pH 0 - 160 mg/l cyanuric acid / 5 - 200 mg/l $CaCO_3$ (TA) 0 - 500 mg/l $CaCO_3$ (CaH)	29 80 902

* Delivery without reagents for measuring range 0.1 - 10 mg/l Cl_2

Please see pages 50 onwards for reagents (order codes)

Data Transfer

The photometer MD 110 has integrated Bluetooth® functionality. The app AquaLX® is the ideal supplement to the Lovibond® photometer. Measurement results are transmitted via the Bluetooth® interface for fast evaluation or administration on smartphones or tablets. All data can be handled and allocated immediately, on-site. The app displays all results in a clear graphic with min. and max. values and supports the export of the data as an Excel® compatible CSV file.

For further information, please refer to **www.lovibond.com/bluetooth**







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