Photometer MultiDirect

The MultiDirect is a contemporary, microprocessor-controlled photometer with ergonomically designed keypad and large-format graphic display. It is equipped with a wide range of pre-programmed methods based on the proven range of Lovibond® tablet reagents, liquid reagents, tube tests and powder reagents (VARIO Powder Packs). Users can also store their own methods.

The MultiDirect is a filter photometer using interference filters at 6 different wavelengths. The unique design of the optics allows the automatic selection of the required wavelength without any moving parts. This and the dual beam technology utilizing an internal reference channel, guarantees the highest accuracy.

For portable use, the instrument operates with seven standard rechargeable batteries (supplied). These batteries are available all over the world and are easily changed. The integrated intelligent charge controller allows simultaneous operation of the unit and battery charging (using the supplied power pack). The MultiDirect also operates without a power pack by using alkaline manganese batteries.

The entire instrument, including sample chamber (the most critical component of any photometer) and battery compartment, is waterproof, ensuring that no water comes in contact with the electronic components.

N.I.S.T. Traceability

The instrument has a factory calibration, which is related to international standards, which are not N.I.S.T traceable. The instrument may be calibrated by the user in a "user calibration mode" with N.I.S.T traceable standards.
(N.I.S.T. = National Institute of Standards and Technology)

New methods

Test methods are regularly updated to suit market requirements. You can find software updates for new methods and additional languages on our website at **www.lovibond.com**.

Polynomials

With the help of an external mathematical program, the corresponding polynomial is created from data pairs (concentration/absorption). A known polynomial may also be used. 25 order polynomials $(y = A+Bx+Cx^2 +Dx^3 +EX^4 + FX^5)$ can be stored together with user-specific parameters such as wavelength, measuring range, unit and number of decimals.

Concentration

This function can be used to measure 2 to 14 known standards. On the basis of the concentrations/absorption pairs obtained, the photometer will calculate a linear interpolation between the measured points. Up to 10 methods can be stored for further sample measurements.

Highlights

- Dual Beam Technology and Interference Filters for highest accuracy

- A wide range of pre-programmed methods

- Long-term stable LEDs as light sources

- Update of new methods and languages via Internet (free of charge)

- Interface

- Memory for 1000 data sets

- Mobile

➡ **Please see pages 78 onwards for reagents (order codes)**

Applications

- Waste Water

- Drinking Water

- Industrial Process Water

- Science & Research

- Governmental and Private Laboratories

- Mobile Applications

Photometer MultiDirect

Delivery Content

- Instrument in carrying case
- 7 rechargeable batteries
- 1 lithium battery
- Mains charger, 100-240 V
- PC connection cable
- 3 round vials each 24 and 16 mm ø
- 1 adapter for 16 mm ø vials
- 3 syringes
- 1 plastic beaker 100 ml
- Warranty information
- Certificate of Compliance
- Instruction Manual

  but without reagents

  Order code: 21 00 00-B
  Order code: 21 00 00 (without lithium battery)

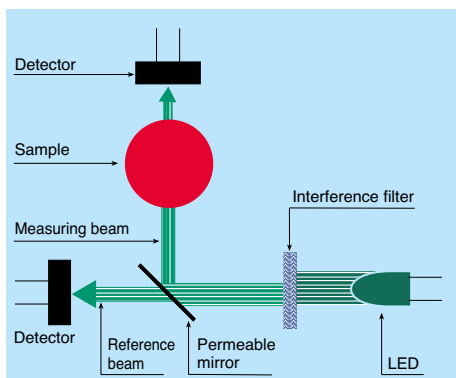Please specify the reagents or parameters required at time of order.

You can find updated information on parameters and measuring ranges on our website at **www.lovibond.com**

Technical Data

Display	Graphic-display
Optics	6 temperature compensating LED, internal reference channel, photodiode in protected sample chamber
Wavelengths	6 interference filters in one unit, $\lambda_1 = 430$ nm IF $\Delta\lambda$ (nm) = 5, $\lambda_2 = 530$ nm IF $\Delta\lambda$ (nm) = 5, $\lambda_3 = 560$ nm IF $\Delta\lambda$ (nm) = 5, $\lambda_4 = 580$ nm IF $\Delta\lambda$ (nm) = 5, $\lambda_5 = 610$ nm IF $\Delta\lambda$ (nm) = 6, $\lambda_6 = 660$ nm IF $\Delta\lambda$ (nm) = 5 IF = interference filter
Interface	RS232 for printer and PC-connection
Download	Software and methods up-date by means of the internet
Operation	Acid and solvent resistant, touch-sensitive keypad with audible feedback
Power Supply	7 Ni-MH-battery pack (AA/Mignon), charged whilst in the unit with external mains charger, integrated overload cut-out
Dimensions (L x W x H)	265 x 195 x 70 mm
Weight (unit)	approx. 1000 g with rechargeable batteries
Ambient Conditions	up to max. 90 % humidity (non condensing) approx. 5–40 °C
Auto-Off	approx. 20 minutes after last keypress with no loss of data
Auto-Check	By pressing ON/OFF-key
Memory Capacity	approx. 1000 data sets with date, time and registration number
Approval	CE

Dual Beam Technology

Verification Standard Kit

The verification standard kit for the MultiDirect is designed to assure the user of the accuracy and the reliability of the results.
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.

Verification Standard Kit　　　**21 56 50**

Accessories

Item	Code
Set of 12 round vials with lid Height 48 mm, Ø 24 mm	19 76 20
Set of 10 round vials with lid Height 90 mm, Ø 16 mm	19 76 65
Adapter for round vials Ø 16 mm	19 80 10 94
Lid for adapter	19 80 11 00
Vial stand for 6 round vials Ø 24 mm, acrylic glass	41 89 51
Vial stand for 10 vials (Ø 16 mm or □ 13,5 mm), acrylic glass	41 89 57
Sealing ring for vial ø 24 mm (12 pc.)	19 76 26
Cleaning cloth for vials	19 76 35
Adapter for Vacu-vial®	19 20 75
Plastic beaker, 100 ml	38 48 01
Plastic funnel with handle	47 10 07
Plastic stirring rod, 13 cm length	36 41 00
Plastic stirring rod, 13 cm length, (10 pc.)	36 41 20
Plastic stirring rod, 10 cm length	36 41 09
Plastic stirring rod, 10 cm length, (10 pc.)	36 41 30

Item	Code
Cleaning brush, 10 cm	38 02 30
Syringe, plastic, 2 ml	36 90 80
Syringe, plastic, 5 ml	36 61 20
Syringe, plastic, 10 ml	36 90 90
Rubber seal cap	19 80 15 01
Mains charger, 100-240 V, 50-60 Hz, with international adapters	19 30 10
Universal adapter for socket, international	19 20 65
Cable for connection to PC, serial 9-pins	19 81 98
AA Ni-MH, 1100 mAh (7 pc.)	19 50 02 0
Lithium battery	19 50 01 7
Verification Standard Kit	21 56 50