

Tintometer®-Group

MultiDirect Photometer



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



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 internal 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.tintometer.com.

➔ Please see pages 68 onwards for tests, ranges and reagents

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.

Applications

- Waste Water
- Drinking Water
- Industrial Process Water
- Scientific & Research
- Governmental and Private Laboratories
- Mobile Applications



MultiDirect Photometer

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, $\lambda_1 = 430 \text{ nm IF } \Delta \lambda (\text{nm}) = 5$, $\lambda_2 = 530 \text{ nm IF } \Delta \lambda (\text{nm}) = 5$, $\lambda_3 = 560 \text{ nm IF } \Delta \lambda (\text{nm}) = 5$, $\lambda_4 = 580 \text{ nm IF } \Delta \lambda (\text{nm}) = 5$, $\lambda_5 = 610 \text{ nm IF } \Delta \lambda (\text{nm}) = 6$, $\lambda_6 = 660 \text{ nm IF } \Delta \lambda (\text{nm}) = 5$ IF = interference filter
Interface	RS232 for printer and PC-connection
Download	Software and methods update 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

Delivery Content

The instrument is supplied complete and ready-to-use incl. 7 rechargeable batteries and mains charger, 100-240 V, PC connection cable, 3 x 24 mm vials, 3 x 16 mm vials, 1 adapter for 16 mm vials, 3 syringes of various sizes, 1 plastic beaker 100 ml, carrying case with water resistance foam, **but without reagents.**

Order code: 21 00 00


Order code: 21 00 05 (basic version) with batteries instead of rechargeable batteries, without mains charger and PC connection cable

Order code: 21 00 10 (international version)

Order code: 21 00 70 (U.K. version)

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

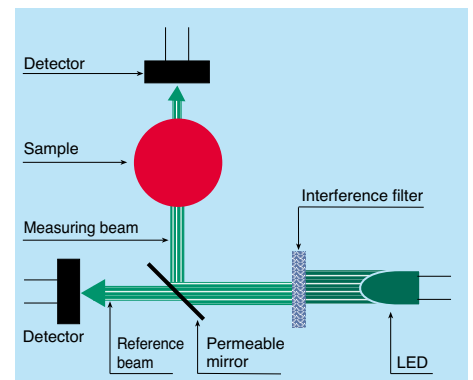
You can find updated information on parameters and measuring ranges on our website at www.tintometer.com

 Please see pages 68 onwards for tests, ranges and reagents





Dual Beam Technologie



Photometry

Accessories

Item	Code	Item	Code
Set of 12 round vials with cap Height 48 mm, Ø 24 mm	19 76 20	Mains charger, 100 - 240 V, 50 - 60 Hz, TI-instrument connector	19 20 55
Set of 10 round vials with cap Height 90 mm, Ø 16 mm for calcium hardness	19 76 65	Mains charger, as 19 20 55, with UK connector	19 20 45
Adapter for round vials Ø 16 mm	19 80 10 94	Mains charger, as 19 20 55, with USA/Japan connector	19 20 46
Lid for adapter	19 80 11 00	Mains charger, as 19 20 55, with Australian connector	19 20 47
Sealing ring for vial Ø 24 mm (12 pc.)	19 76 26	Cable for connection to PC, serial 9-pins	19 81 98
Cleaning cloth for vials	19 76 35	AA Ni-MH, 1000 mAh (7 pc.)	19 50 02 0
Adapter for Vacu-vial®	19 20 75	Lithium battery	19 50 01 7
Plastic beaker, 100 ml	38 48 01	Paper printer DPN 2335	19 80 75
Plastic funnel with handle	47 10 07	Verification Standard Kit	21 56 50
Plastic stirring rod, 13 cm length	36 41 00		
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		

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 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

