

Photometer AL450

Dual Beam Technology and Interference Filters for highest accuracy



The AL450 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 AQUALYTIC® tablet reagents, liquid reagents, tube tests and powder reagents (VARIO Powder Packs). Users can also store their own methods.

The AL450 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 AL450 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.

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Highlights

- 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

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.aqualytic.de.

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

Delivery Content

The instrument is supplied complete and ready-to-use incl. 7 rechargeable batteries and mains charger, 100-240 V, 1 lithium battery, PC connection cable, 3 x 24 mm cuvettes, 3 x 16 mm cuvettes, 1 adapter for 16 mm cuvettes, 3 syringes of various sizes, 1 plastic beaker 100 ml, carrying case with water resistance foam,


but without reagents.

Order code: 4210000-B

Order code: 4210000 (as above, but 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.aqualytic.de

 Please see pages 40 onwards for tests, ranges and reagents



Photometer AL450



Technical Data

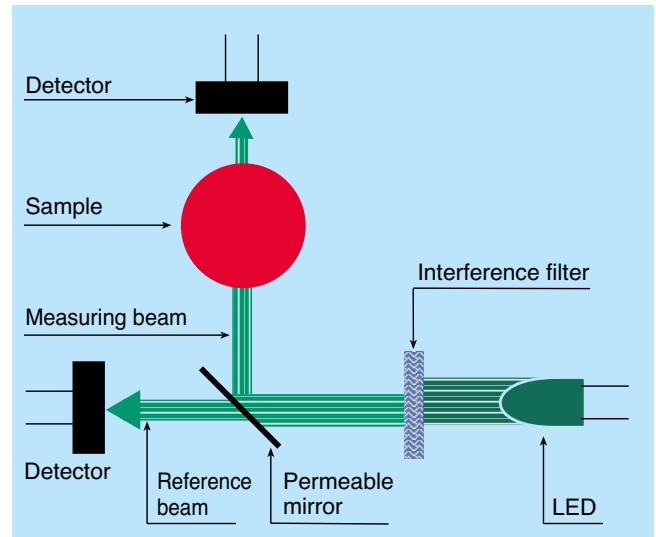
Display	Graphic-display
Optics	6 temperature compensating LED, internal reference channel, photodiode in protected sample chamber
Wavelengths	6 interference filters in one unit, $\lambda_1 = 430 \text{ nm IF } \Delta \lambda \text{ (nm)} = 5$ $\lambda_2 = 530 \text{ nm IF } \Delta \lambda \text{ (nm)} = 5$ $\lambda_3 = 560 \text{ nm IF } \Delta \lambda \text{ (nm)} = 5$ $\lambda_4 = 580 \text{ nm IF } \Delta \lambda \text{ (nm)} = 5$ $\lambda_5 = 610 \text{ nm IF } \Delta \lambda \text{ (nm)} = 6$ $\lambda_6 = 660 \text{ nm IF } \Delta \lambda \text{ (nm)} = 5$ 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

➔ Please see pages 40 onwards for tests, ranges and reagents

Accessories

Item	Code
Set of 12 round cuvettes with cap Height 48 mm, Ø 24 mm	197620
Set of 10 round cuvettes with cap Height 90 mm, Ø 16 mm	197665
Adapter for round cuvettes Ø 16 mm	19801094
Lid for sample chamber	19801100
Sealing ring for cuvette ø 24 mm (12 pc.)	197626
Cuvette stand for 6 round cuvettes Ø 24 mm, acrylic glass	418951
Cuvette stand for 10 cuvettes (Ø 16 mm or □ 13,5 mm), acrylic glass	418957
Cleaning cloth for cuvettes	197635
Adapter for Vacu-cuvette®	192075
Plastic beaker, 100 ml	384801
Plastic funnel with handle	471007
Plastic stirring rod, 13 cm length	364100
Plastic stirring rod, 13 cm length, (10 pc.)	364120
Plastic stirring rod, 10 cm length	364109
Plastic stirring rod, 10 cm length, (10 pc.)	364130
Cleaning brush, 10 cm	380230
Syringe, plastic, 2 ml	369080
Syringe, plastic, 5 ml	366120
Syringe, plastic, 10 ml	369090
Rubber seal cap	19801501
Mains charger, 100-240 V, 50-60 Hz, with international adapters	193010
Universal adapter for socket, international	192065
Cable for connection to PC, serial 9-pins	198198
Set of accu AA Ni-MH, 1100 mAh (7 pc.)	1950020
Lithium battery	1950017
Paper printer OM 1905	198077
Verification Standard Kit	4215650

Dual Beam Technology



Verification Standard Kit

The verification standard kit for the AL450 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. Measurements are taken in mAbs.

Verification Standard Kit

4215650