

# Photometry

## History

More than three decades have passed since the appearance of the first PC 100 photometer system.

Since that time, Tintometer has become a world-famous name as the manufacturer of photometer systems sold under the brand name of AQUALYTIC®.

Our range of photometer systems extends from the **AL100** as hand-held model, the multi parameter photometer **AL200** as desktop model to the **AL800** spectrophotometer for laboratories.

The **AL450** offers a wide variety of pre-programmed methods and is therefore suitable for the demands of modern water and drinking water analysis.

A modern, mobile photometer for rapid, reliable water testing is the **AL400**.

The latest development involves the photometer system **AL410** with Bluetooth® data transmission. The device works wirelessly with the free app AquaLX®.

All the parameters which can be measured with AQUALYTIC® photometer systems are set out in the table. This table also explains what parameters can be measured with which photometer system.

Parameter	AL100	AL200	AL400 & AL410	AL450	AL800	also compatible to Hach® devices*
Alkalinity-M	■	■	■	■	■	
Alkalinity-P			■	■	■	
Aluminium	■		■	■	■	see page 56
Ammonia	■		■	■	■	see page 56
Arsenic					■	
Boron			■	■	■	
Bromine	■	■	■	■	■	see page 56
Cadmium					■	
Calcium Hardness	■	■	■	■		
Chloride	■		■	■	■	
Chlorine	■	■	■	■	■	see page 56
Chlorine Dioxide	■	■	■	■	■	see page 56
Chromium			■		■	
COD	■	■	■	■	■	see page 56
Copper	■	■	■	■	■	see page 56
Cyanide			■	■	■	
Cyanuric acid	■	■	■	■	■	
DEHA	■		■	■	■	see page 56
Fluoride	■		■	■	■	
Formaldehyde					■	
Hazen (Pt-Co-Units ; APHA)	■		■	■	■	
Hydrazine	■		■	■	■	see page 58
Hydrogen Peroxide			■	■	■	
Iodine			■	■	■	
Iron (Fe <sup>2+</sup> , Fe <sup>3+</sup> ), soluble	■	■	■	■	■	see page 58
Langelier Water Balance System			■	■		
Lead					■	
Manganese	■		■	■	■	see page 58
Molybdate / Molybdenum	■		■	■	■	see page 58
Nickel			■	■	■	



AL100



AL200



AL400

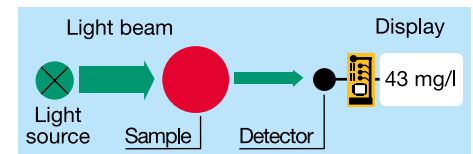
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Parameter	AL100	AL200	AL400 & AL410	AL450	AL800	also compatible to Hach® devices*
Nitrate		■	■	■		see page 58
Nitrite		■	■	■		see page 60
Oxygen, active			■	■		
Oxygen, dissolved	■		■	■		
Ozone	■		■	■	■	
pH-value	■	■	■	■	■	
Phenols					■	
PHMB (Biguanide)			■	■		
Phosphate	■		■	■	■	see page 60
Phosphonate			■	■	■	see page 60
Polyacrylates	■		■			
Potassium			■	■	■	
Silica	■		■	■	■	see page 60
Sodiumhypochlorite			■	■		
Spectral Absorption-Coefficient					■	
Sulphate	■		■	■	■	see page 60
Sulphide			■	■	■	
Sulphite			■	■	■	
Surfactants (anionic)					■	
Suspended Solids	■		■	■	■	
TOC					■	
Total Hardness	■		■	■	■	
Total Nitrogen			■	■	■	see page 58
Triazoles	■		■			
Turbidity (nephelometric), see AL250T-IR, page 74						
Turbidity (attenuated radiation method)			■	■	■	
Urea	■	■	■	■	■	
Zinc	■		■	■	■	

## The principle of photometry

When specific reagents are added, the water sample takes on a degree of coloration that is proportional to the concentration of the parameter being measured. The photometer measures this coloration.

When a light beam passes through the coloured sample, energy with a specific wavelength is absorbed by the test substance. The photometer determines the coloration of the sample by measuring the transmission or absorption of light of this wavelength (in other words, monochromatic light). The photometer then uses a microprocessor to calculate the required concentration and displays the result.



Mode of operation of the photometer



AL450



AL800



AL450T-IR

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