

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 Lovibond®.

Our range of photometer systems extends from the **MiniDirect** in a pocket sized format, **CheckitDirect** for measuring a single parameter, through the **CheckitDirect+** for multiple parameters, to the **SpectroDirect** spectrophotometer.

The multi-functional **PoolDirect** provides the answer to all requirements relating to the analysis of water used in modern swimming pools and baths (see also our swimming pool catalogue).

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

The latest development from Tintometer involves a photometer system, the mobile laboratory photometer **MaxiDirect**.

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

Parameter	MiniDirect	CheckitDirect	CheckitDirect+	MaxiDirect	MultiDirect	PoolDirect	SpectroDirect	also suitable for Hach-Photometer
Alkalinity-m (total)			■	■	■	■	■	
Alkalinity-p				■	■	■	■	
Aluminium	■	■		■	■	■	■	see page 90
Ammonia	■	■		■	■	■	■	see page 90
Ammonia, free				■	■			see page 90
Arsenic							■	
Boron				■	■		■	
Bromine			■	■	■	■	■	
Cadmium							■	
Calcium Hardness			■	■	■	■		
Chloride		■		■	■		■	
Chlorine	■	■	■	■	■	■	■	see page 90
Chlorine Dioxide	■		■	■	■	■	■	see page 90
Chromium							■	
COD		■		■	■		■	see page 90
Copper	■	■	■	■	■	■	■	see page 90
Cyanide				■	■		■	
Cyanuric Acid	■		■	■	■	■	■	
DEHA		■		■	■		■	see page 90
Fluoride	■	■		■	■		■	
Formaldehyde							■	
Hazen (Pt-Co-Units ; APHA)		■		■	■		■	
Hydrazine		■		■	■		■	see page 92
Hydrogen Peroxide		■		■	■	■	■	
Iodine				■	■	■	■	
Iron (Fe²⁺, Fe³⁺), soluble	■	■	■	■	■	■	■	see page 92
Langelier Water Balance System				■	■	■		
Lead							■	



MiniDirect



CheckitDirect



MaxiDirect

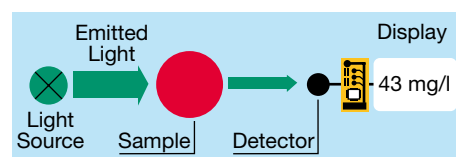


Parameter	MiniDirect	CheckitDirect	CheckitDirect+	MaxiDirect	MultiDirect	PoolDirect	SpectroDirect	also suitable for Hach-Photometer
Manganese	■	■		■	■		■	see page 92
Molybdate				■	■		■	see page 92
Monochloramine				■	■			see page 92
Nickel							■	
Nitrate				■	■		■	see page 92
Nitrite		■		■	■		■	see page 94
Oxygen, active				■	■	■		
Oxygen, dissolved				■	■			
Ozone		■		■	■	■	■	
pH-value	■		■	■	■	■	■	
Phenols							■	
PHMB (Biguanide)				■	■	■		
Phosphate	■	■		■	■	■	■	see page 94
Phosphonate				■	■			see page 94
Potassium				■	■		■	
Silica	■			■	■		■	see page 94
Sodiumhypochlorite				■	■	■		
Spectral Absorption-Coefficient							■	
Sulphate				■	■	■	■	see page 94
Sulphide				■	■		■	
Sulphite				■	■		■	
Surfactants (anionic)							■	
Suspended Solids	■			■	■			
TOC							■	
Total Hardness	■			■	■	■	■	
Total Nitrogen				■	■		■	see page 92
Turbidity (nephelometric)	■							
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



MultiDirect



SpectroDirect



TurbiDirect