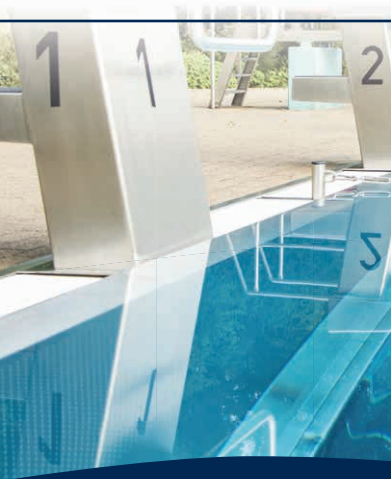


# Lovibond® Water Testing



## COMPLETE SOLUTIONS

Pool & Spa Water Analysis



[www.lovibond.com](http://www.lovibond.com)



## Always working for you

We employ more than 400 employees at our locations in Germany, UK, USA, Spain, Brazil, India, China, Hong Kong and Malaysia.

Whether logistics specialists, design engineers or technicians, everyone of our employees is a professional in their field of work. Fast decision-making channels allow us to respond quickly and flexibly to our clients' wishes.

Teamwork, personal commitment and a strong sense of responsibility characterise the working environment in our company.

## Family-operated for more than 130 years

Devoted to Water Quality. For more than 130 years, we have specialised in the development of innovative instruments for water analysis. Today, the lasting success of our flexible family-operated business is primarily attributed to the commitment and creativity of our employees. Our technically advanced products are sold in over 140 countries today and above all guarantee reliable and precise analysis results.

For over 20 years, we have been certified in compliance with the quality management standard DIN ISO 9001. The high standards of quality associated with this certificate have been manifested in all parts of our company.

Experience is what makes the difference!

This applies to the field of water analysis just as it does to „real“ life!

Yours, Maja Voss and Cay-Peter Voss



## One step ahead

We never lose sight of the latest market requirements and trends. To stay competitive, you always have to be one step ahead of the competition.

From the initial idea right through to market maturity, we develop products in constant dialogue with our clients.

Decades of expertise and know-how in development and production allow us to combine chemistry with electronic measuring equipment to create the perfect products.

Our promise: We have the highest standards of development and production



## A clean business

Our all-rounders for water analysis: ensure clear conditions from drinking and waste water to surface, ground, raw and waste water through to cooling, boiler and swimming pool water.

And have been doing so for more than 130 years! We also achieve accurate measurement results even under difficult conditions thanks to our proven test equipment and reagents for modern water analysis.

Whether you are looking for Aqualytic® MINIKITS for visual quick tests, highly sensitive electronic measuring equipment or industrial or waste water kits:

Our multi-functional equipment and reagents offer reliable solutions from one single source and for any task!

It is our aim to make analytical methods as environmentally compatible and safe as possible. In so doing, we want to achieve a favourably green profile. That is why we avoid using harmful chemicals such as boric acid in our formulations – although this additive is still rampant in the industry.

# VISUAL TESTERS

## Pooltester & Mini Pooltester

The pool tester is a quick analysis aid for every pool owner – also available as a mini pool tester.

They enable simultaneous measurement of the water treatment agent and the pH value.

- Active oxygen
- Alkalinity-m
- Bromine
- Calcium hardness
- Chlorine
- Cyanuric acid
- pH value

Fill the tester with pool water, add the tablets and compare the colour change with the scale: there is no easier way to reliably check pool parameters such as pH or chlorine.

Influences of the pool water on the colour impression are eliminated by the third, middle chamber

## Pool Test Kits

The Pool Test Kits can be used to measure other important pool parameters such as cyanuric acid (stabiliser), alkalinity-m (temporary hardness) and calcium hardness in addition to chlorine and pH.

## New packaging

as a contribution to environmental protection – less plastic!

The new cardboard packaging as a cheaper alternative to plastic boxes.

The contents remain the same, only the outer packaging has changed.



Mini Pooltester



Pooltester



Pool Test Kits



Also available: Phosphate Test Kit



For several decades, Tintometer® in Dortmund has been manufacturing reagents for water testing and marketing these reagents around the world under the brand name Lovibond®. Different forms of reagents are required for different fields of application. Tintometer is the only reagent producer in the world that offers a complete range of reagent forms.

# REAGENTS

## Tablet Reagents

- Secured storage in individually-packed aluminium strips
- Accurate dosage, even under in-field conditions
- High accuracy and simple handling
- Shelf life of 5-10 years

## Powder Reagents

- Fast and easy use
- 2 years shelf life
- Best trickling ability
- Chemical properties of the VARIO products make them compatible to Hach® instruments.\*



## Green Chemistry

All reagents for the pool area are free from boric acid, which is often used as an additive throughout the industry.

The Lovibond® DPD No.1 tablet, for example, is not only 100% boric acid-free, it also guarantees the sufficient buffering effect prescribed by the standard. With these properties, it is therefore at the forefront of the competition.



## Evo Reagents

Follow the purple band and the formula 'Evo' on our products. Then you are guaranteed to be on the safe side.

Purple is the colour used to identify iodine. Our half-filled crystal signals: The potassium iodide content of the product is significantly reduced and non-hazardous.



low iodide



## Liquid Reagents

- Rapid dosing
- No dissolution required



\* HACH® is a registered trademark of Hach Company, Loveland, Colorado / HACH LANGE GmbH, Düsseldorf, Germany. The use of the HACH® trademark does not imply any affiliation with or approval by Hach Company / HACH LANGE GmbH regarding the formulation, testing or suitability of these products for use in HACH® brand spectrophotometers or other devices or systems.

# POOL WATER ANALYTIC

## Scuba3s – The Smart Pooltester

Whether directly at the pool or relaxing on the sofa:

with the Scuba3s, pool monitoring is possible anywhere and at any time. The results of the pool tests are sent wirelessly via NFC directly to the smartphone or tablet.

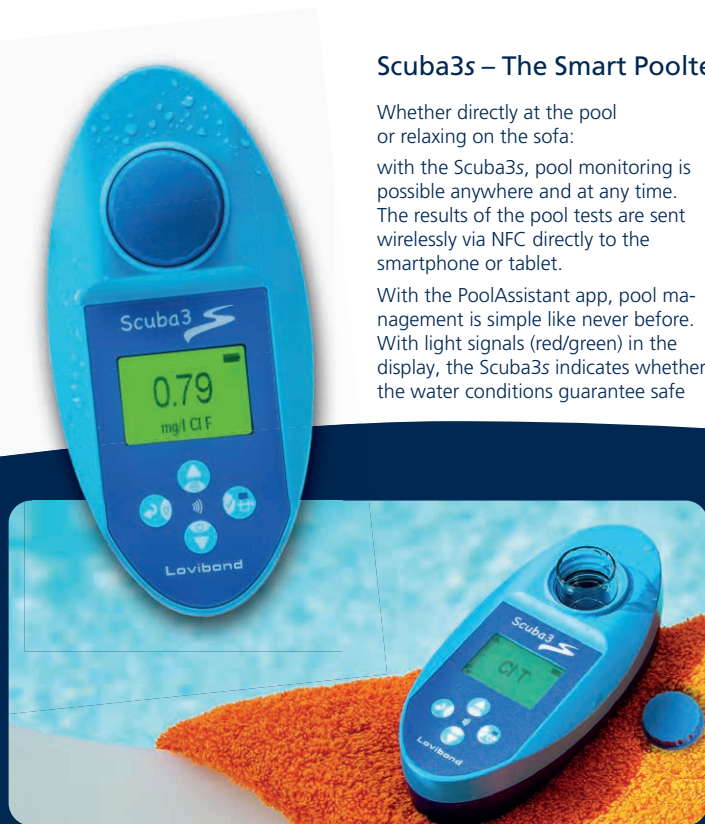
With the PoolAssistant app, pool management is simple like never before. With light signals (red/green) in the display, the Scuba3s indicates whether the water conditions guarantee safe

swimming in accordance with the globally accepted measuring ranges.

Meet the specific requirements in America and Asia with our exclusive version Scuba3s HR for the extended measuring range. This special version enables the precise measurement of chlorine, bromine and alkalinity, even in high concentrations.

So you are always and everywhere on the safe side!

- Active oxygen
- Alkalinity-m
- Bromine
- Calcium hardness
- Chlorine free, combined, total
- Copper
- Cyanuric acid
- pH value
- Phosphate
- Urea  
(only for Scuba3s HR)

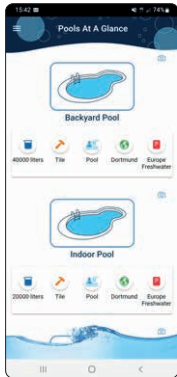


Video available

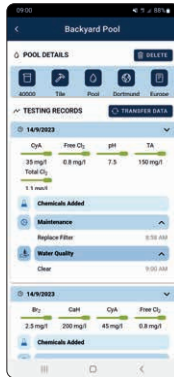


For the efficient use of test reagents, Lovibond® offers refill packs for the Scuba3s.

# POOL WATER ANALYTIC



Manages 5 pools at the same time



Pool-specific dashboard for test results



## Lovibond® PoolAssistant App

As a supplement to the Scuba3s, our app is an ideal solution for analysing your swimming pool water and managing your measurements.

It offers:

- Pool-specific dashboard of the measurement results
- Connectivity with a cloud for data storage

- Categorisation of results by colour coding (red, green)
- Data visualisation in a diagram
- Data export as PDF, CSV or image
- FAQ & operating instructions
- Langelier Saturation Index Calculator

## NFC: Data Transfer via Chip

The **passive NFC chip** in the Scuba3s ensures wireless data transfer to an external device with an active NFC reader such as smartphones.

The working principle is just as simple as paying by NFC with your debit card or smart device: Simply open the PoolAssistant App and place your smartphone above Scuba3s. All data records are transferred simultaneously and are immediately available in the PoolAssistant for evaluation. A data set includes the serial number and firmware version of the device, the name and number of the method, the dates and time of the measurement, the results and the units.



# RAPID TESTS

## AQUALYTIC® MINIKIT

Tablets based rapid tests

The MINIKIT is designed as a rapid test that is largely based on titrimetric methods.

- Easy operation
- Exact reagent dosing
- High accuracy



## CHECKIT® Comparator Kit

Compact and handy colorimetric system

CHECKIT® Comparator Kits are precise, easy-to-use test kits for analysing water. They contain the comparator, the required colour discs, reagents and cuvettes.

- Cost-efficient
- Accurate
- Reliable



## Comparator 2000+

Colorimetric system with coloured glass standard

The Lovibond® 2000+ Comparator is a versatile colourimetric system for precise water testing that is easy to use.

The integrated prism combines the glass standards of the colour discs and the sample in one field of view to ensure accurate measurement results.



The light- and chemical-resistant glass colour standards are manufactured in accordance with ISO 7393-2:2017-12 and are particularly scratch-resistant.

- More than 400 different test discs available
- Compensation for coloured and turbid samples
- Guaranteed constancy of the coloured glass standards





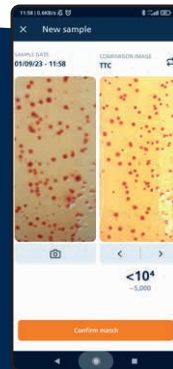
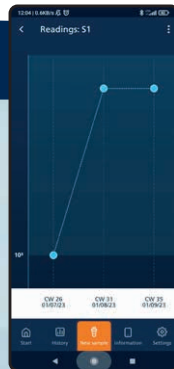
## Dipslides

- Enable regular trend analyses of the growth rate of microorganisms
- Quantification of the results using the Dipslide Comparator 2 App

## Dipslide Comparator 2 App

- Photograph the Dipslides agar after sampling and incubation
- Compare the photograph with a variety of result templates
- Optical determination of the amount of microbial activity
- Send results by email and WhatsApp for archiving

Simply scan & download



# PHOTOMETRY

## MD50 Single-Parameter Photometer

Your ultimate solution for accurate testing and unrivalled ease of use!

The MD50 series offers a comprehensive range of single-parameter photometers for a wide variety of water treatment requirements.

With its robust, compact and waterproof design, the MD50 is the ideal companion for use in the field. The intuitive operation due to a user-friendly UI makes measurements effortless. Meet laboratory standards with our GLP-compliant photometer and achieve maximum efficiency with fast measurements and One-Time-Zero.

Enjoy smooth data management like never before.

With NFC technology and the AquaLX® app, data can be easily transferred. Alternatively, you can use wired data import and export options via USB-C.



*The ultimate solutions for precise testing  
& unrivalled ease of use!*

## MD150 Multiparameter-Photometer

Offers the same functions as the devices in the MD50 series but also a comprehensive selection of multi-parameters for testing.

- Easy to use language-free UI accompanied by intuitive icons and animations
- Robust industrial design durable and reliable as well as waterproof according to IP67
- Versatile data transfer wirelessly via NFC with the AquaLX® app or via USB-C cable

smart  
**NFC**  
connection



# PHOTOMETRY

## MD110 Multiparameter-Photometer

It's small but has a huge impact in the industry. It is a handheld design. The single and multi-parameter photometers of the MD110 series are best suited for mobile on-site analysis. Both instrument series can be used in almost all fields of water analytics. The device series are used in almost all areas of water analysis. The MD110 instrument is equipped with low-energy **Bluetooth®**.

## MD200 Multiparameter-Photometer

The Benchtop Classic from Lovibond®. For years, this instrument has been providing excellent performance with the highest accuracy and quality. The series includes several 2in1, 3in1, 4in1, 5in1 and even 6in1 variants and is applicable in all fields of water analysis. This strong Duo enables you to deal with any challenge in almost all fields of water analytics. These instruments are equipped with high-precision optics, long-term stable LEDs, high qua-

lity interference filters, and resistance to shocks – not to mention they are maintenance-free. Results are precise every time and can be reproduced in a relatively short period of time.

## Photometer PM600, PM620 & PM630

The PM600 photometer range brings pool testing to the next level for discerning pool operators. The ergonomic, portable, waterproof design enables users to select just one unit for accu-

rate analysis of up to 34 parameters anytime and anyplace.

The **PM600** focusses on the main pool parameters required for balanced water including: alkalinity, bromine, chlorine, cyanuric acid, iron, calcium hardness, copper, sodium hypochlorite, phosphate, ozone and pH value.

The **PM620** extends these capabilities to include up to 34 parameter variants from acid demand to urea.

The **PM630** corresponds to the PM620 and comes with **Bluetooth®** data transmission for easy data transfer to smartphones or tablets.



# PHOTOMETRY

## AquaLX® App

The AquaLX® app is the ideal supplement for Lovibond® photometers. The measurement results are transferred to smartphones or tablets via the **Bluetooth®** and NFC interface for quick evaluation and processing, so that all data can be analysed and assigned directly on site. The app displays all measured values including GPS coordinates as a clear graph with min. and max. limits and supports the export of data as an Excel®-compatible CSV file.

AquaLX® is compatible with:

**NFC:** MD50, MD150

**Bluetooth®:** MD110, PM630

## AquaLX® App

– Just scan & download



*smart*  
**NFC**  
*connection*

**Bluetooth®** is a wireless technology subject to regional approval. The use of the MD110 and PM630 with **Bluetooth®** is currently only permitted within Europe, the USA, Japan and in Canada. For current regions and further information, visit: [www.lovibond.com/en/PW/Water-Testing/Products/Software/AquaLX-App](http://www.lovibond.com/en/PW/Water-Testing/Products/Software/AquaLX-App)

# ELECTROCHEMISTRY

## SD Pocket Tester Series

As a single parameter or multi-parameter instrument: the pocket testers of the SD series are so compact that they fit comfortably in one hand or on trousers. They are easy to use for pH measurement, redox/ORP control or for monitoring Con, TDS and salt.

The SD series is ideal for mobile use on-site: samples can be measured directly in the lid, which also provides a secure stand. The perfect assistant for environmental, industrial or pool & spa monitoring.



SD10 pH

SD20 ORP

SD30 EC

SD40  
Multi

- New multi-parameter models for individual measurement requirements
- New cover design for a stable stand
- Display colours & symbols for easy use
- Simplified replacement of batteries & spare electrodes

# TURBIDITY

## For robust & cost efficient on-site analysis

### TB211 IR

The compact Lovibond® TB211 IR infrared turbidimeter for fast and precise on-site analysis. As specified in EN ISO 7027, the scattered light is measured at an angle of 90°.

The wide measuring range from 0.01 to 1100 TE/F = NTU = FNU with a detection limit of 0.01 NTU allows the

device to be used in various areas, from drinking water to waste water.

As the measurements are carried out using infrared light, both coloured and colourless water samples can be measured.

Direct transfer of the measurement results to a PC is easy to set up using the USB interface on the TB211 IR.



**T-CAL® formazin primary standards** have a shelf life of over 12 months thanks to a special stabilisation process and therefore help to calibrate our turbidity devices easily and reliably.

# IMPORTANT PARAMETERS

## Free Chlorine

Free chlorine is considered to be an effective means of disinfecting and oxidising water from swimming pools and spas.

How often and how much chlorine must be added depends on how often the pool is used, in addition to other factors such as water temperature, sunlight, and the addition of fresh water.

The build-up of free chlorine in the water provides a temporary disinfection effect and is virtually odourless. The recommended measuring range is between 0.3 and 3.0 mg/L, depending on whether inorganic or organic chlorine (see cyanuric acid) is used.

## Combined chlorine

The reaction of free chlorine with organic contaminants creates chlorine-containing substances, known as combined chlorine or chloramine. This chloramine can irritate eyes and cause an unpleasant „chlorine smell“. In chloramine, the combined chlorine has a slight disinfecting effect. In order to break down combined chlorine and to render micro-organisms harmless or kill them, swimming pool water must be re-chlorinated on a regular basis. The amount of combined chlorine should be minimal, and ideally undetectable.

## pH Value

The pH value indicates whether the pool water is acidic or alkaline, which is crucial for the disinfection effect of free chlorine.

If the pH falls below 6.5 (acidic range), this can lead to eye irritation. In addition, metals can oxidise and corrosion phenomena can occur. With pH values over 7.8 (alkaline range), the free chlorine becomes increasingly inefficient and lead to water turbidity and lime deposits. The ideal pH range is between 7.0 and 7.4.

## Cyanuric Acid

When found in concentrations of approximately 50 mg/l or higher, the organic carrier of chlorine, isocyanuric acid, or so-called organic chlorine, influences the rate at which germs are killed so by way of compensation, higher chlorine levels in the pool water must be maintained.

It is therefore necessary to monitor the concentration of cyanuric acid as regularly as it is chlorine.

## Total Chlorine

Total chlorine is the sum of free and combined chlorine. First the free chlorine is determined, and then the total chlorine. The difference between these two values is the amount of combined chlorine.

## Bromine

Bromine, like chlorine, is suitable for disinfecting swimming pool water. Advantages of bromine: Unlike chloramine (combined chlorine) the corresponding bromamines are odourless, do not irritate the mucous membranes, and have ongoing disinfection efficiency.

The disadvantage, however, is the basic lower oxidation effect compared to chlorine.

## Alkalinity

The acid-binding capacity of the pool water is referred to as alkalinity. It is a part of the total hardness and is deemed to be temporary, which is thereby referred to as temporary hardness. High levels of alkalinity to prevent sharp fluctuations of the pH value. With high alkalinity, the pH value is difficult to influence. Even small additions of acids or alkalis can cause strong fluctuations in the pH value at low alkalinity.

The alkalinity affects the stability of the pH value and the pH in turn determines the disinfection effect of free chlorine. The alkalinity should be set to a range from 100-160 mg/L calcium carbonate; which corresponds to approx. 6 – 9 degrees German hardness.

Parameter				Photometer Systems					Electro-chemistry	Turbidity	
	CHECKIT® Comparator	Comparator 2000+	Pooltester	Scuba3s	MD50	MD150	MD110	MD200	PM Photometer	SD Series SD10 pH, SD20 ORP, SD30 EC, SD40 Multi	TB211 IR PTV1000
Acid capacity $K_{s4.3}$	■					■	■		■		
Alkalinity-m	■		■	■		■	■	■	■		
Aluminium	■	■					■		■		
Ammonia	■	■							■		
Bromine	■	■	■	■		■	■	■	■		
Calcium hardness			■	■		■	■	■	■		
Chlorine	■	■	■	■	■	■	■	■	■		
Chlorine dioxide	■	■			■	■	■	■	■		
Chloride		■					■				
Conductivity ( $\mu\text{S}/\text{mS-cm}$ )										■	
Copper	■	■	■	■	■		■	■	■		
Cyanuric acid				■		■	■	■	■		
Hydrogen peroxide		■	■					■	■		
Hypochlorite sodium	■				■				■		
Iodine		■							■		
Iron ( $\text{Fe}^{2+}$ , $\text{Fe}^{3+}$ ), dissolved	■	■					■	■	■		
Langelier Water Balance System									■		
Manganese	■	■									

Parameter				Photometer Systems					Electro-chemistry	Turbidity	
	CHECKIT® Comparator	Comparator 2000+	Pooltester	Scuba3s	MD50	MD150	MD110	MD200	PM Photometer	SD Series SD10 pH, SD20 ORP, SD30 EC, SD40 Multi	TB211 IR PTV1000
Nickel		■									
Nitrate	■	■									
ORP (mV)										■	
Oxygen, active			■	■					■		
Oxygen, dissolved		■								■	
Ozone	■	■			■	■			■		
pH value	■	■	■	■		■	■	■	■	■	
PHMB – Biguanides			■						■		
Phosphate	■	■		■	■		■		■		
QAC		■									
Redox (mV)										■	
Salinity (%- ppt-ppm)										■	
Sulphate							■		■		
TDS (ppm/ppt)										■	
Temperature ( $^{\circ}\text{C}$ , $^{\circ}\text{F}$ )										■	
Total hardness		■							■		
Turbidity (nephelometric)											■
Urea				■	■			■	■		

\*) for more information and further tests see: [www.lovibond.com](http://www.lovibond.com)

†) only Scuba3s HR





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Technical changes without notice  
Printed in Germany 10/24  
No.: 938230

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