

# Handheld Photometer

*The next generation of photometers*



SMART

RUGGED

PRACTICAL

Cooling Towers  
Marine Industry


Potable Water  
Boiler Water

Food Processing  
Water Plants

Waste Water  
Laboratories

# Features

More Than 140 Parameters

- Multi-Connectivity Bluetooth®, WiFi, USB, 4G\*
- Turbidity (NTU), PTSA, Fluorescein built in
- Probe-Connector (pH/EC/TDS/Temp/ORP)\*
- Step by Step instructions with animations
- Software / App / Cloud
- Intelligent One Time Zero (OTZ)
- 18 wavelengths (410-940 nm)
- 5.5" colour/HD touch display
- Camera (QR-Code Scanner)
- 8400 mAh L10-battery
- Self Calibration mode with certificate
- Multilingual
- USB Type C  for charging, data transfer, probe-connection and 4G\*-modem



\*via USB Internet Stick / accessories / may be subject to costs for connection

# 18 wavelengths sensor technology

UV - VIS - IR

peaks at:

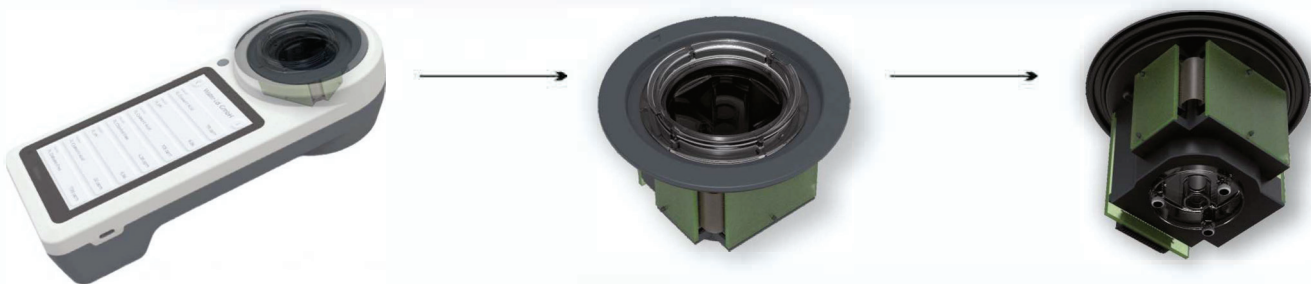
410nm	435nm	460nm	485nm	510nm	535nm
560nm	585nm	610nm	645nm	680nm	705nm
730nm	760nm	810nm	860nm	900nm	940nm

Whilst normal photometers perform tests on one selected wavelength only, this handheld Photometer receives data from 18 different wavelengths with each measurement, covering the key parts of UV and IR section of the spectrum and the full VIS range.

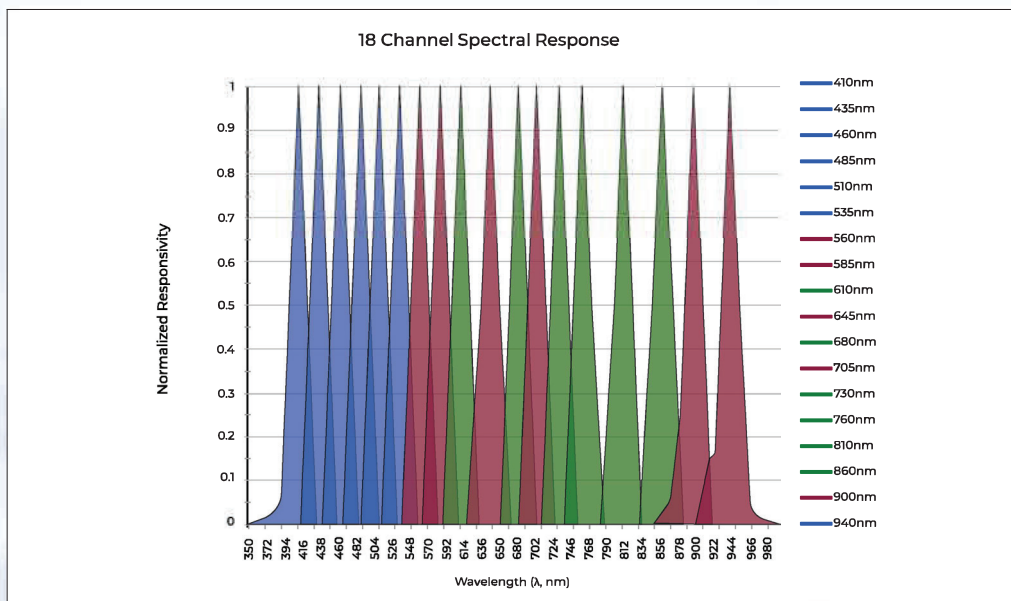
3 sensors with 6 wavelengths each are connected to each other Correspondent LEDs are set up at 180° as well as at 90° to enable NTU-Turbidity, PTSA and Fluorescein measurements as well.

Very narrow peaks between 390 and 950 nm allow utmost accurate readings, similar to the performance of a spectrophotometer.

The highly professional firmware can interpolate between the different wavelength readings, while the parameter curves are set to use multiple wavelengths to obtain the most accurate test results.



The built in SmartChamber has 3 PCBs, connected to each other. The MASTER PCB receives LED signals from either 180° (direct) or 90° (indirect), required for NTU-Turbidity and water samples which need to be excited, such as for PTSA, Fluorescein or Plankton.



18 wavelengths throughout the UV - VIS - IR range are covered by sensors used by the Photometer. Narrow peaks on the spectral curve allow utmost accuracy.

# 5.5" Colour-HD-Touch Display

**The Photometer features a state-of-the-art 5.5" colour HD touch display.**

The large display gives a perfect overview of all basic info, such as battery status, bluetooth, WiFi and 4G\* connectivity and offers highest flexibility for you to arrange icons as you would on your smartphone.

Each and every parameter- method comes with step by step instructions in many different languages plus useful animations and links to user videos, ensuring the correct procedure is followed to get the measurement result accurate and correct.

With the large 5.5" display, there is no need to connect to the phone-app anymore (which still is available if you prefer)

All data can be managed easily on-board the Photometer

Managing multiple accounts  
(water sites)

Scan QR codes  
(water sites or reagents)



Choose from many  
different languages

Step by step instructions  
with animations

## Handheld Photometer and probes

pH - EC - TDS - ORP - Temp.

**Photometer has the option to connect test probes, such as those used for pH, EC, TDS, Salinity, ORP and temperature.**

Connection is made by a USB-Type C cable with an A/D-exchange-box link. By connecting probes to the photometer, it manages the probe, obtaining readings which can be stored under the user-defined Accounts (water-sites) and synchronized to the LabCOM Cloud (optional). Photometer uses highest quality probes.



### Adapters for different vials

Photometer utilises 24mm glass vials, 16mm glass vials and 1ml (3mm) Eppendorf vials. The vial adapter can easily be changed and replaced with a simple, built in, bayonet lock.



# Connecting Photometer

USB - WiFi - Bluetooth - 4G\*

## Over time, water testing became much more than just about testing.

Real-time availability of reliable test results plus data management are as important as the test results itself. The Photometer is the ultimate for connectivity!

Bluetooth, WiFi, USB (Type C) and 4G\* are available for multiple options to connect the Photometer with a smartphone, tablet, computer or directly with the LabCOM Cloud.

Wherever the tests are performed, whether in a lab, on site or on a ship, cooling tower - in fact anywhere - data can easily and automatically be transferred.

Easy setup of connection options - as on your smartphone.



\*via USB Internet Stick / accessories / may be subject to costs for connection





# LabCom App - Software - Cloud



**The most powerful LabCOM App / Software / Cloud-solution, developed over many years connects and runs with the Photometer**

Photometer along with the LabCOM App and Software allows you to create unlimited Accounts (water sites or locations) and to enter individual water treatment chemicals, both are synchronized via the LabCOM Cloud. Reports can be created, printed or sent, dose recommendations can be created and statistics can be run.

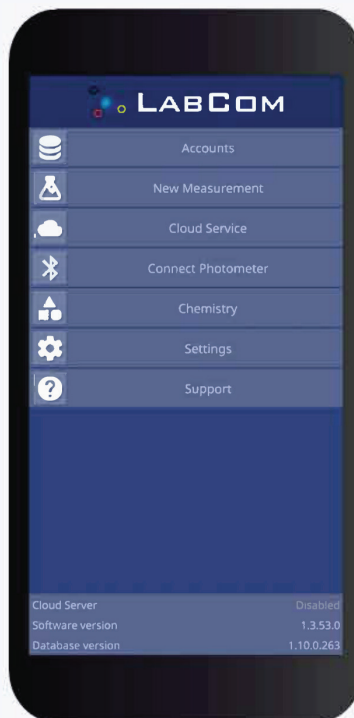
Also featured the admin-tool allows you to create rules, such as: needs to be tested daily or: test result must be in between... and gives warnings when these rules are broken. With the admin tool, the user also can grant access to other users, such as customers or headquarters, with full flexibility to select what information shall be shared.

LabCOM App runs under Android and iOS

Unlimited user-defined Accounts (water sites or locations)

Remote control and/or enter manual results

User defined water treatment chemicals for dosage recommendation



Set operator, language and backup data

Multiple choice of languages

Multiple choice of languages

Full support menu, including user manuals, videos and FAQ links

LabCOM Software runs under Windows and Mac



**BOROSIL<sup>®</sup>**  
**Scientific**

— in Technical Partnership with —

**WATER-I.D.**

# Handheld Photometer Camera

Built In

With the built in camera, the Photometer gives the option to scan barcodes and QR-codes to identify Accounts (water sites or locations) set up by the user and to identify reagents with barcode/QR-code on the package.

The advantages of this options are significant: Scanning the barcode / QR-code of a water site ensures that you always connect the test results obtained to the right Account., rapidly reducing the test process as the related Account will be selected automatically, ready for the next measurement.

Scanning barcodes / QR-codes from the reagent's package prevents from ever using wrong or even expired reagents, accelerating the test process by pre-selecting the parameter method, ready for the next measurement.



## 1-hour Legionella sp. Test

1-Hour Legionella sp. Test • Quantitative (60 - 10<sup>6</sup> cfu)  
AOAC Certified Detection Of Viable Cells • Patented Method

The LEGIPID 1-hour Legionella sp. test is one of the more than 140 different parameter-methods on the PrimeLab 2.0

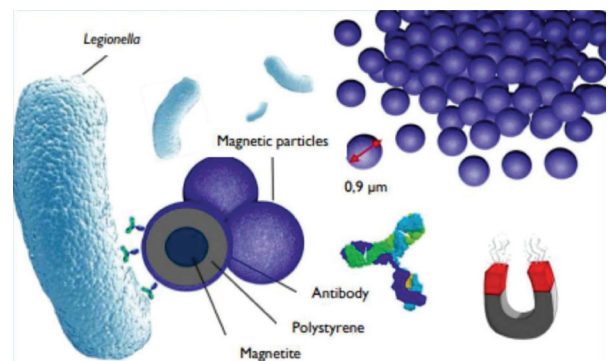
Legionella bacteria, in special Legionella pneumophila serogroup 1, is a harmful threat with a mortality rate of up to 30%. Once Legionella is inhaled (droplets in the air), they grow in human lungs and can cause Pontiac fever or even Pneumonia (Legionnaire's disease).

The issue with current method (culture) is that it takes up to 14 days to let Legionella grow on a petri dish to be viable and countable, which is far too long to take effective actions. Legipid® on Photometer takes a different approach: As with the culture method 1 litre of water is filtered to catch the Legionella. After releasing Legionella from a filter, a patented reagent is added which contains micro-bits with a magnetic core, covered with an antibody.

Due to the antibodies, only living Legionella Sp. (no false positives!) are captured. After several steps, a colour tracer, again connected to an antibody, is added to connect with Legionella Sp., already linked to the micro-bit.

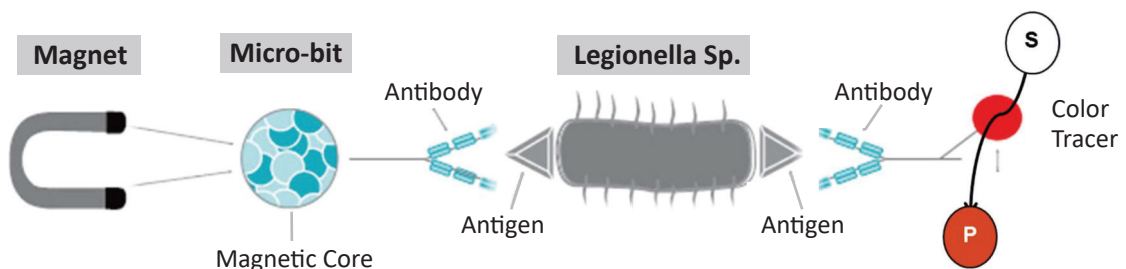
This results in viable Legionella being made visible (pink colour) to be read by PrimeLab.

Photometer detects colour and translates it into the range: 60-10 cfu.



LEGIPID schematics

biotica®  
legipid®  
LEGIONELLA FAST DETECTION





**More than 140 different parameter or methods to choose from!**

Over almost two decades, Water-i.d. developed reagents and photometer-curves for more than 140 different parameter-methods.

Photometer offers water testing solutions for many different industries, testing almost every parameter from A for Alkalinity to Z for Zinc.

All Photometer parameter-curves are calibrated to quality reagents, developed and produced in Germany and UK.

Users can also define their own curves, using all 18 wavelengths, and store them on Photometer!

Code	Parameter	Range	Resolution
PLPar1	Active Oxygen	0 - 40 mg/l	0.1
PLPar5	Alkalinity-M	5 - 200 mg/l	1
PLPar121	Alkalinity-M (HR)	0 - 500 mg/l	1
PLPar6	Alkalinity-P	5 - 300 mg/l	1
PLPar4	Aluminium	0 - 0.3 mg/l	0.01
PLPar2	Ammonia (LR)	0 - 1 mg/l	0.01
PLPar155	Ammonia (HR)	1 - 50 mg/l	0.1
PLPar7	Boron	0 - 2 mg/l	0.1
PLPar8	Bromine	0 - 18 mg/l	0.01
PLPar63	Bromine	0 - 18 mg/l	0.01
PLPar128	Bromine	0 - 4.5 mg/l	0.01
PLPar71	Carbohydrazide	0 - 1.3 mg/l	0.01
PLPar95	Chloramines	0.00 - 8.00 mg/l	0.01
PLPar10	Chloride	0.5 - 25 mg/l	0.1
PLPar124	Chloride	0 - 100 mg/l	0.1
PLPar167	Chloride in Methanol	0 - 20 mg/l	0.01
PLPar11	Chlorine (free-combined-total)	0.00 - 8.00 mg/l	0.01
PLPar12	Chlorine (free-combined-total)	0.00 - 8.00 mg/l	0.01
PLPar129	Chlorine (free)	0 - 2 mg/l	0.01
PLPar122	Chlorine (MR)	0.00 - 10.00 mg/l	0.01
PLPar14	Chlorine (HR)	5 - 200 mg/l	1

\*if parameter and range repeats, different reagents are used (e.g. liquid reagents instead of tablets)



Code	Parameter	Range	Resolution
PLPar15	Chlorine (HR)	0 - 200 mg/l	1
PLPar16	Chlorine Dioxide	0 - 15 mg/l	0.01
PLPar64	Chlorine Dioxide	0 - 15 mg/l	0.01
PLPar130	Chlorine Dioxide	0 - 5 mg/l	0.01
PLPar108	Total Oxidant	0 - 8 g/l	0.01
PLPar106	Chlorite	0 - 8 mg/l	0.01
PLPar94	Chromium	0 - 2.2 mg/l	0.01
PLPar103	Chromium	0 - 1 mg/l	0.01
PLPar79	COD (LR)	0 - 150 mg/l	1
PLPar80	COD (MR)	0 - 1500 mg/l	1
PLPar17	COD (HR)	0 - 15000 mg/l	1
PLPar107	Colour	15 - 500 mg/l	1
PLPar18	Copper	0 - 5 mg/l	0.01
PLPar19	Copper	0 - 5 mg/l	0.01
PLPar158	Cyanide	0.01 - 0.50 mg/l	0.01
PLPar20	Cyanuric Acid	2 - 160 mg/l	1
PLPar65	DBNPA	0 - 13 mg/l	0.01
PLPar82	DBNPA	0 - 13 mg/l	0.01
PLPar21	DEHA	20 - 1000 µl/l	10
PLPar163	Dissolved Oxygen	0 - 10 mg/l	0.1
PLPar70	Erythorbic Acid	0 - 3.5 mg/l	0.01
PLPar113	Fluorescein	0 - 500 µl/l	1
PLPar72	Fluoride	0 - 2 mg/l	0.01
PLPar78	Hardness-Calcium	0 - 500 mg/l	1
PLPar166	Hardness-Calcium	0 - 500 mg/l	1
PLPar9	Hardness-Calcium (HR)	50 - 1000 mg/l	1
PLPar56	Hardness-Total LR	2 - 50 mg/l	1
PLPar148	Hardness total (HR)	0 - 500 mg/l	1
PLPar57	Hardness-Total HR	20 - 500 mg/l	1
PLPar23	Hydrazine	5 - 600 µl/l	1
PLPar160	Hydrocarbons in Methanol (tank wash)	yes/no	1
PLPar66	Hydrogen Peroxide (LR)	0 - 3.8 mg/l	0,01
PLPar24	Hydrogen Peroxide (LR)	0 - 3.8 mg/l	0,01
PLPar25	Hydrogen Peroxide (HR)	0 - 200 mg/l	1
PLPar162	Hydrogen Peroxide (HR)	0 - 200 mg/l	1
PLPar109	DEWAN-50	0 - 300 mg/l	1
PLPar26	Hydroquinone	0 - 2.5 mg/l	0,01
PLPar27	Iodine	0 - 28 mg/l	0,01
PLPar67	Iodine	0 - 28 mg/l	0,01
PLPar28	Iron (LR)	0 - 1 mg/l	0,01

\*if parameter and range repeats, different reagents are used (e.g. liquid reagents instead of tablets)



Code	Parameter	Range	Resolution
PLPar29	Iron (MR)	0 - 10 mg/l	0.01
PLPar127	Iron (MR) Ferrous	0 - 10 mg/l	0.01
PLPar30	Iron (HR)	0 - 30 mg/l	0.01
PLPar132	Iron total	0 - 3 mg/l	0.01
PLPar149	Iron in Oil	50 - 500 mg/l	1
PLPar88	Isothiazolinone	0.0 - 10.0 mg/l	0.01
PLPar147	Legionella	60 -10 <sup>6</sup> cfu	1
PLPar93	Magnesium	0 - 100 mg/l	1
PLPar161	Manganese VLR	0 - 0.030 mg/l	0
PLPar31	Manganese	0.2 - 5 mg/l	0.1
PLPar69	Methylethylketoxime	0 - 4.1 mg/l	0.01
PLPar96	Molybdate (LR)	0 - 15 mg/l	0.01
PLPar33	Molybdate (HR)	5 - 200 mg/l	0.1
PLPar32	Molybdate	1 - 100 mg/l	0.1
PLPar134	Molybdate (HR)	0 - 4 mg/l	0.1
PLPar90	Nickel (HR)	0 - 7 mg/l	0.1
PLPar100	Nickel (HR)	0 - 10 mg/l	0.1
PLPar34	Nitrate	0.00 - 11.00 mg/l	0.1
PLPar169	Nitrate (HR)	1 - 100 mg/l	1
PLPar35	Nitrite (LR)	0 - 0.5 mg/l	0.01
PLPar36	Nitrite (HR)	5 - 200 mg/l	0.1
PLPar97	Nitrite (HR)	0 - 1500 mg/l	1
PLPar101	Nitrite (HR)	0 - 3000 mg/l	1
PLPar151	Nitrogen-Total (LR)	0.5 - 25 mg/l	0.1
PLPar152	Nitrogen-Total (HR)	5 - 150 mg/l	1
PLPar37	Ozone	0 -5.4 mg/l	0.01
PLPar92	Ozone	0 -5.4 mg/l	0.1
PLPar164	Peracetic Acid (LR)	0.00 - 10.00 mg/l	0.01
PLPar165	Peracetic Acid (HR)	0 - 300 mg/l	1
PLPar159	Permanganate Time Test in Methanol (tank wash)	0-100 %A	0.1
PLPar40	pH-value (LR)	5.2 - 6.8 pH	0.01
PLPar38	pH-value (MR)	6.5 - 8.4 pH	0.01
PLPar39	pH-value (MR)	6.5 - 8.4 pH	0.01
PLPar41	pH-Universal	5 - 11 pH	0.1
PLPar42	pH-Universal	4 - 11 pH	0.1
PLPar98	Phenol	0 - 5 mg/l	0.01
PLPar43	PHMB	2 - 60 mg/l	1
PLPar44	Phosphate-ortho (LR)	0 - 4 mg/l	0.01
PLPar45	Phosohate-ortho (LR)	0 - 4 mg/l	0.01

\*if parameter and range repeats, different reagents are used (e.g. liquid reagents instead of tablets)

Code	Parameter	Range	Resolution
PLPar46	Phosphate-ortho (HR)	0 - 80 mg/l	0.1
PLPar47	Phosphate-ortho (HR)	0 - 100 mg/l	0.1
PLPar87	Phosphonate	0 - 20 mg/l	0.01
PLPar110	Phosphonate	0 - 20 mg/l	0.01
PLPar153	Phosphorus-Total (LR)	0 - 2.6 mg/l	0.01
PLPar154	Phosphorus-Total (HR)	0 - 52 mg/l	0.1
PLPar85	Polyacrylate	1 - 30 mg/l	0.1
PLPar48	Potassium	0.7 - 12 mg/l	0.1
PLPar111	PTSA	0 - 1000 µl/l	1
PLPar157	PTSA Tracer	0 - 1000 µl/l	1
PLPar156	PTSA Watch Products	0 - 1000 µl/l	1
PLPar83	QAC	25 - 150 mg/l	1
PLPar49	Silica (LR)	0 - 5 mg/l	0.01
PLPar50	Silica (HR)	0 - 100 mg/l	1
PLPar51	Sodium Hypochlorite	0.2 - 40 %	0.1
PLPar68	Sodium Hypochlorite	0.2 - 40 %	0.1
PLPar54	Sulphate	5 - 100 mg/l	1
PLPar55	Sulphate	5 - 100 mg/l	1
PLPar52	Sulphide	0.0 - 0.5 mg/l	0.01
PLPar140	Sulphide	0 - 0.7 mg/l	0.01
PLPar53	Sulphite (LR)	0 - 10 mg/l	0.1
PLPar105	Sulphite (HR)	0 - 300 mg/l	0.1
PLPar81	Suspended solids	0 - 750 mg/l	1
PLPar91	Tannic acid	0 - 150 mg/l	0.1
PLPar170	Transmission / Absorption (all wavelengths). Wavelengths in nm: 410, 435, 460, 485, 510, 535, 560, 585, 610, 645, 680, 705, 730, 760, 810, 860, 900, 940	0 - 100 %	0.1
PLPar59	Turbidity (FAU)	20 - 1000 FAU	1
PLPar112	Turbidity (NTU)	0 - 1100 NTU	0.01
PLPar120	Urea	0.1 - 2.5 mg/l	0.1
PLPar150	Urea	0.2 - 5.0 mg/l	0.2
PLPar62	Zinc	0 - 1 mg/l	0.01

\*if parameter and range repeats, different reagents are used (e.g. liquid reagents instead of tablets)

# Technical Data

Dimensions	10cm x 25.5cm x 5.9cm (width x length x depth)
Weight	715g
Spectral range	390nm - 950nm 18 wavelength, peaks at 410/435/460/485/510/535/560/585/610/645/680/705/730/760/810/860/900/940nm 180° and 90° Setup for direct and indirect measurement
Parameters	more than 140 parameters (flexible setup) User defined parameter function
Electrodes	USB-type-C connector for pH/EC/TDS/ORP/Temp-Probes
Connectivity (technical)	Bluetooth® 4.2 WiFi USB (type C) 4G* (via USB-modem)
Connectivity (software)	LabCOM Software (Windows / Mac) LabCOM App (Android / iOS) LabCOM Cloud (web-browser)
Display	5.5" Color-HD touch display
Camera	In-built barcode / QR-code scanner
Calibration	Auto-calibration function with certificate (software)
Internal memory	>5,000
Clock/Date	RTC (Real-Time-Clock) with calendar function
Auto-Off	Factory default setting = 10 minutes. Individual adjustment possible
Menu guidance	Intuitive, display-controlled 4-button menu guidance: test instructions during measurement process
Power supply	8,500 mA Li-Io-battery
Languages	>15
Environment	5°C - 45°C / 30 - 90% rel. humidity
Water-proof rating	The device is splash-water-proof (IP54)
Reagents	The calibration curves for the individual parameters/measurement procedures are adjusted to the reagents offered by Water-i.d. Using reagents from other manufacturers may lead to wrong readings / higher tolerances reagents are entirely "Made in Germany" or "Made in UK"!
One-Time-Zero	Intelligent OTZ (One-Time-Zero) function with recognition of ZERO types

**BOROSIL®**  
Scientific

— in Technical Partnership with —

**WATER-I.D.**

**BOROSIL SCIENTIFIC LIMITED**

1101, Crescenzo, G-Block, Opp. MCA Club,  
Bandra Kurla Complex, Bandra (E), Mumbai - 400 051, India.  
T +91 22 6740 6300 F +91 22 6740 6514  
E bsl@borosil.com W www.borosilscientific.com

