

Catalogue

Laboratory Water Analysis

Photometric and Electrochemical Instruments, Reagents and Services

ASIS SCIENTIFIC

HACH LANGE
UNITED FOR WATER QUALITY

HACH LANGE Photometric and Electrochemical Instruments, Reagents & Services

With high quality products, consumables, accessories and comprehensive services, HACH LANGE is your ideal partner for water analysis. Our laboratory solutions ensure accurate and reliable analysis for all key parameters in the municipal, regulatory and industrial sectors, in the lab and in the field.



Everything from a single supplier

From instrumentation out in the field or in the lab, to sampling, reagents, accessories and consumables. HACH LANGE provides all you need for your water analysis.

For every application

HACH LANGE water analysis is the result of decades of practical experience. We supply you with tailor-made solutions for reliable monitoring of wastewater, drinking water and process water.

Parameters from A–Z

From Ammonium to Zirconium. Consistently user friendly solutions; proven in daily practice. Our customers know they can rely on HACH LANGE for their water analysis; from sample preparation to quality control. In the interest of continuous product improvement, technical specifications are subject to change without prior notice.

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HACH LANGE

Photometric System

HACH LANGE offers a perfectly coordinated system of photometers and reagents, required accessories and services. For all key parameters from Ammonium to Zirconium. From a fast screening test to standard comparable analysis, with sample preparation and Quality Assurance.



Systematic quality and efficiency

Only a perfect interaction guarantees highest efficiency and accuracy – starting with the individual components of the spectrophotometer and the ready-to-use chemistry up to the interaction with you and your laboratory equipment. HACH LANGE delivers to you a perfectly coordinated system – as a developer, manufacturer and sales & service partner.

Easy & safe handling

By means of bar-coded cuvettes, the DR spectrophotometer automatically identifies test parameter, range, method, lot number and expiry date. Colour coded cuvettes, packaging, pictograms, and instructions in multiple languages simplify testing. DOSICAP ZIP reagent delivery provides ease of use and eliminates hazardous chemistry handling.

Sustainable & environmentally friendly

Continuous environmental investment is a high priority in the development of the HACH LANGE cuvette tests. Since 1978, we have collected used reagents for proper disposal. Thanks to the special reagent processing techniques applied in the HACH LANGE Environment Centre, more than 75% of all returned test components are fed back into the production and material cycles.

Analysis made simple

LCK cuvette tests - unrivalled analysis

- Safe - Maximum safety for users, thanks to the closed cuvette system and low amounts of reagents. Complete labelling of the individual cuvettes, including barcode label for automatic recognition in the photometer.
- Easy - Convenient and error-free dosing of the reagents without pipetting and reagent contact, thanks to DOSICAP and DOSICAP ZIP: cuvette caps containing an exactly pre-dispensed amount of freeze-dried reagent.
- Approved - HACH LANGE cuvette tests are officially approved for legally required consent limits. With the help of standard solutions and round-robin test solutions, they provide the assurance you need.
- Versatile - 50 parameters and more than 100 measuring ranges for all applications in water analysis - from extremely polluted industrial wastewater to trace analysis in drinking water.



IBR+ increases reliability

During the rotating ten times measurement process using the IBR+ Integrated Barcode Reader, the DR spectrophotometer immediately picks up all the information on the cuvette, also including lot number and expiry date. Both are documented with the measurement value. In case of exceeding the expiry date you automatically get an alarm.



RFID for traceability and rapid data updates

By means of RFID (Radio-Frequency Identification) technology you can trace your samples completely back to the sampling point. All important data like sampling point, operator, date and time are stored on an RFID tag on the sample bottle. In addition, Certificates of Analysis (CoA) can be retrieved immediately from the RFID tag on the packaging. In the laboratory, all this information will be transferred via RFID identification to the DR spectrophotometer in a matter of seconds.

Never before has updating or programming of methods into the spectrophotometer been so easy and quick. You simply hold the cuvette test box in front of the DR's RFID module, wait for the acoustic signal and that's it. The measurement starts instantly - with the correct calibration data leading to the right result.



Analytical Quality Assurance (AQA)

Quality assurance and analysis are completely interlinked. QA procedures can be easily defined and documented within the instrument without additional software. Results are only dependable in conjunction with AQA. HACH LANGE offers classic single standard solutions as well as practical multi-standard solutions in application-oriented combinations. In addition the comprehensive ADDISTA AQA system for cuvette tests contains two round-robin solutions which entitle you to participate in external round-robin tests free of charge.



Alignment of laboratory and process analysis

Compare your online value with your laboratory reference value directly in the spectrophotometer - via LINK2SC connection between SC controller and DR 3900/DR 6000. The exchange of data works bidirectional, which means that you can do a matrix correction of your process probe straight from the laboratory.

Photometric Tests

HACH LANGE offers a family of prepared reagents designed to streamline your testing and save your time. Whether you are using Cuvette Tests, Powder Pillows, TEST'N'TUBEs, Liquid Reagents, or ACCUVACs, our reagents deliver the quality and convenience you expect from us.



Focus on quality

To make sure you receive high-quality reagents, HACH LANGE conducts stringent quality control checks throughout the entire manufacturing process. Several in-process control steps take place as well as comprehensive inspections of the finished products. Documentation of the final quality checks is carried out on our Certificates of Analysis (CoA).

Reagents tailored to your needs

Lot after lot, HACH LANGE prepares reagents providing accurate results, enhanced stability, repeatable results, and extended shelf life. Especially suitable for photometric measurements under difficult conditions are Powder Pillows and ACCUVACs. For demanding analysis the cuvette tests with their outstanding precision are just what is needed.

Everything for your security

It goes without saying that safety comes first. Hazard code information can be found on product labels, packages, Safety Data Sheets AND, what's more, in this catalogue! Safety at a glance: in accordance with Article 48 of the CLP regulation (EC) No. 1272/2008, the following tables provide EU and/or GHS hazard codes of our laboratory chemicals.

Which LCK cuvette tests for my photometer?

Quick reference guide

LCK - Outstanding precision and handling



Our cuvette tests cover all water analysis applications. They satisfy the most demanding tasks, e.g. monitoring consent limits as an equivalent alternative to time-consuming reference methods. The 2D barcode also details the lot number and the expiry date of the reagents. The Certificate of Analysis (CoA) is directly available via RFID tag on the packaging.

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	PC II	DR 3900	DR 6000	EU hazard code	GHS hazard code
LCK362	Acid capacity	0.5 - 8.0 mmol/L	HACH LANGE Method			25		■	■	-	-
LCK300	Alcohol	0.01 - 0.12 g/L	Alcohol Oxidase (Enzymatic)			24		■	■	-	-
LCK301	Aluminium	0.02 - 0.5 mg/L Al	Chromazurol S		LCA702	24		■	■	T	GHS02, GHS05, GHS07, GHS08
LCK302	Ammonium	47 - 130 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA705	25		■	■	Xn, N	GHS05, GHS07, GHS09
LCK303	Ammonium	2 - 47 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA703	25	■	■	■	Xn, N	GHS05, GHS07, GHS09
LCK304	Ammonium	0.015 - 2.0 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA700	25	■	■	■	Xn, N	GHS05, GHS07, GHS09
LCK305	Ammonium	1 - 12 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA704	25	■	■	■	Xn, N	GHS05, GHS07, GHS09
LCK390	AOX	0.05 - 3.0 mg/L AOX	Digestion + Iron(III)-Thiocyanate	DIN EN ISO 9562	LCA390	24		■	■	T, C, F	GHS02, GHS06, GHS08
LCK391	AOX	0.005 - 0.5 mg/L AOX	Digestion + Iron(III)-Thiocyanate	DIN EN ISO 9562	LCA390	12		■	■	T, C, F	GHS02, GHS05, GHS06, GHS08
LCK241	Bitter units	≥ 2 BU	Analogous MEBAK-Method	MEBAK II		25			■	Xn, F, N	GHS02, GHS05, GHS07, GHS08, GHS09
LCK554	BOD_5	0.5 - 12 mg/L O_2	Dilution Method	EN 1899-1		20		■	■	Xi	GHS05. GHS07
LCK555	BOD_5	4 - 1650 mg/L O_2	Dilution Method	EN 1899-1	LCA555	39		■	■	Xi	GHS05. GHS07

PC II: Single Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

Please note: Some methods require reagent blanks. For these, the number of tests varies.

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

RFID IBR

HACH LANGE

Which LCK cuvette tests for my photometer?

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	PC II	DR 3900	DR 6000	EU hazard code	GHS hazard code
LCK307	Boron	0.05 - 2.50 mg/L B	Azomethine-H	DIN 38405-D17	191442	25		■	■	-	GHS07
LCK308	Cadmium	0.02 - 0.3 mg/L Cd	Cadion		LCA702	25		■	■	T, N	GHS02, GHS05, GHS06, GHS07, GHS08, GHS09
LCK388	Carbonate/ carbon dioxide	55 - 550 mg/L CO_2	pH Indicator			25		■	■	-	-
LCK311	Chloride Chloride	1 - 70 mg/L Cl 70 - 1000 mg/L Cl	Iron(III)-Thiocyanate		LCA700, LCA703, LCA704, LCA705	24	■	■	■	T, C	GHS02, GHS05, GHS06
LCK410	Chlorine, free	0.05 - 2.0 mg/L Cl_2 free/ClO_2	DPD	ISO 7393-1-2-1985, DIN 38408 G4-2	LCA310	24		■	■	-	GHS07
LCK310	Chlorine/ Ozone/ Chlorine dioxide	0.05 - 2.0 mg/L Cl_2	DPD	ISO 7393-1-2-1985, DIN 38408 G4-2	LCA310	24	■	■	■	-	GHS07
LCK213	Chromic acid	0.5 - 5.0 g/L CrO_3	Intrinsic Baths Colour			25		■	■	Xi	GHS07
LCK313	Chromium	0.03 - 1.0 mg/L Cr (VI)	Diphenylcarbazide	EN ISO 11885, DIN 38405-D24	LCA702	25		■	■	Xi, Xn	GHS05, GHS07, GHS08
LCS313	Chromium, trace	0.005 - 0.25 mg/L Cr (VI)	Diphenylcarbazide	EN ISO 11885, DIN 38405-D24	LCA702	25		■	■	Xn	GHS05, GHS07, GHS08
LCI400	COD	0 - 1000 mg/L O_2	Dichromate	ISO 15705	LCA703	24		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCI500	COD	0 - 150 mg/L O_2	Dichromate	ISO 15705	LCA704	24		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK014	COD	1000 - 10000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA705	25	■	■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK1014	COD	100 - 2000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA708	25		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK114	COD	150 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA703	25	■	■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK314	COD	15 - 150 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA704	25	■	■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK414	COD	5.0 - 60 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA700	24		■	■	T, C	GHS05, GHS06, GHS08, GHS09

PC II: Single Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

Please note: Some methods require reagent blanks. For these, the number of tests varies.

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Hazard code descriptions: see page 19

Which LCK cuvette tests for my photometer?

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	PC II	DR 3900	DR 6000	EU hazard code	GHS hazard code
LCK514	COD	100 - 2000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA708	25		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK614	COD	50 - 300 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA709	25	■	■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK714	COD	100 - 600 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	1218629	25		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK914	COD	5 - 60 g/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44		25		■	■	T, C	GHS05, GHS06, GHS08, GHS09
LCK214	COD, mercury free	100 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41	1218629	25		■	■	T, C	GHS05, GHS08, GHS09
LCK329	Copper	0.1 - 8.0 mg/L Cu	Bathocuproine Disulphonic Acid		LCA701	25		■	■	-	-
LCK229	Copper	2 - 100 g/L Cu	Intrinsic Bath Colour			25		■	■	Xi	GHS05
LCK529	Copper, trace	0.01 - 1.0 mg/L Cu	Bathocuproine Disulphonic Acid		LCA706	20		■	■	-	-
LCK315	Cyanide	0.01 - 0.6 mg/L CN	Babituric Acid-Pyridine	ISO 6703-1-2-3-1984, DIN 38405 D13		25		■	■	C, Xn	GHS05, GHS07, GHS08
LCK319	Cyanide	0.03 - 0.35 mg/L CN	HACH LANGE Method			24		■	■	Xi, N	GHS05, GHS07, GHS09
LCK323	Fluoride	0.1 - 2.5 mg/L F	SPADNS		29153	25		■	■	-	GHS05
LCK325	Formaldehyde	0.5 - 10 mg/L H_2CO	Acetylacetone			24	■	■	■	-	GHS07
LCS325	Formaldehyde, trace	0.01 - 1.0 mg/L H_2CO	Acetylacetone			24		■	■	-	GHS07
LCK320	Iron	0.2 - 6.0 mg/L Fe	1.10-Phenanthroline	DIN 38405-D17	2833649	24		■	■	Xi	GHS07
LCK321	Iron	0.2 - 6.0 mg/L Fe	1.10-Phenanthroline	ISO 6332-1988, DIN 38406 E1-1	LCA701	25		■	■	-	-
LCK521	Iron, trace	0.01 - 1.0 mg/L Fe	1.10-Phenanthroline	ISO 6332-1988, DIN 38406 E1-1	LCA706	20		■	■	-	
LCK306	Lead	0.1 - 2.0 mg/L Pb	PAR		LCA701	25		■	■	T+, N, Xn	GHS06, GHS07, GHS09
LCK326	Magnesium	0.5 - 50 mg/L Mg	Metalphthalein		1479442	25		■	■	-	-
LYW185	Menthol	0.5 - 15 mg/100 mL Menthol	p-Dimethylaminobenzaldehyde			25		■	■	C	GHS05
LCK330	Molybdenum	3 - 300 mg/L Mo	Thioglycolic Acid			24		■	■	T	GHS05, GHS06
LCK337	Nickel	0.1 - 6.0 mg/L Ni	Dimethylglyoxime	DIN 38406-E11	LCA701	25		■	■	C	GHS05, GHS07, GHS08
LCK237	Nickel	5 - 120 g/L Ni	Intrinsic Baths Colour			25		■	■	Xi	GHS05
LCK537	Nickel, trace	0.05 - 1.0 mg/L Ni	Dimethylglyoxime		LCA706	20		■	■	C, O	GHS05, GHS07, GHS08
LCK339	Nitrate	0.23 - 13.5 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA703	25		■	■	C	GHS02, GHS05, GHS07

Which LCK cuvette tests for my photometer?

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	PC II	DR 3900	DR 6000	EU hazard code	GHS hazard code
LCK340	Nitrate	5 - 35 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA704	25		■	■	C	GHS02, GHS05
LCK341	Nitrite	0.015 - 0.6 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA707	25		■	■	Xi	GHS07
LCK342	Nitrite	0.6 - 6.0 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA 709	25		■	■	Xi	GHS07
LCK541	Nitrite, trace	0.0015 - 0.03 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	2340249	50		■	■	-	GHS07
LCK138	Nitrogen total (LATON)	1 - 16 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA709	25		■	■	T, C, Xi, Xn	GHS02, GHS05, GHS07, GHS08
LCK238	Nitrogen total (LATON)	5 - 40 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA700	25		■	■	T, C, Xi, Xn	GHS02, GHS05, GHS07, GHS08
LCK338	Nitrogen total (LATON)	20 - 100 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA708	25		■	■	T, C, Xi, Xn	GHS02, GHS05, GHS07, GHS08
LCK365	Organic acids	50 - 2500 mg/L as Acetic Acid	Esterification			25		■	■	C	GHS05, GHS07, GHS08, GHS09
LCK345	Phenols	0.05 - 5 mg/L Phenols	4-Nitroaniline			24		■	■	Xn	GHS05, GHS07, GHS09
LCK346	Phenols	5 - 200 mg/L Phenols	4-Aminoantipyrine	ISO 6439-1990, DIN 38409 H16		24		■	■	Xn, O	GHS03, GHS07, GHS08
LCK049	Phosphate, ortho	1.6 - 30 mg/L PO_4-P	Vanadate-Molybdate		LCA703	25		■	■	C	GHS05
LCK348	Phosphate, ortho + total	0.5 - 5.0 mg/L PO_4-P	Phosphormolybdenum Blue	EN ISO 6878-1-1986, DIN 38405 D11-4	LCA700, LCA707	25	■	■	■	C	GHS05, GHS07, GHS08
LCK349	Phosphate, ortho + total	0.05 - 1.5 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA704, LCA709	25	■	■	■	C	GHS05, GHS07, GHS08
LCK350	Phosphate, ortho + total	2 - 20 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA703, LCA708	25	■	■	■	C, Xn	GHS05, GHS07, GHS08
LCS349	Phosphate, ortho + total	0.01 - 0.5 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA704, LCA709	25		■	■	C	GHS05, GHS07, GHS08
LCK240	Photometric Iodine sample (PIS)	> 0.2 Iodine value	MEBAK Method	MEBAK II		25			■	F	GHS02, GHS05
LCK228	Potassium	5 - 50 mg/L K	Kalignost		LCA700	25		■	■	-	GHS05, GHS06, GHS07, GHS08
LCK328	Potassium	8 - 50 mg/L K	Kalignost		LCA700	24		■	■	Xn	GHS06
LCK354	Silver	0.04 - 0.8 mg/L Ag	HACH LANGE Method		1461342	25		■	■	F	GHS02, GHS07, GHS08
LCK355	Silver	5 - 400 mg/L Ag (I)	HACH LANGE Method		1461342	24		■	■	C	GHS05

PC II: Single Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

Please note: Some methods require reagent blanks. For these, the number of tests varies.

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Hazard code descriptions: see page 19

RFID IBR+

Which LCK cuvette tests for my photometer?

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	PC II	DR 3900	DR 6000	EU hazard code	GHS hazard code
LCK318	Sludge activity	5 - 200 µg Formazan (SA)	Colorimetric	DIN 38409-H7				■	■	F	GHS02
LCK357	Starch	2 - 150 mg/L Starch	HACH LANGE Method			25		■	■	-	-
LCK153	Sulphate	40 - 150 mg/L SO_4	Barium Sulphate		LCA704	25		■	■	T	GHS06
LCK353	Sulphate	150 - 900 mg/L SO_4	Barium Sulphate		LCA701, LCA702, LCA703	25		■	■	T	GHS06
LCK653	Sulphide	0.1 - 2.0 mg/L S^{2-}	Dimethyl-p-phenylenediamine	ISO 10530-1991, DIN 38405-D26		25		■	■	C	GHS05
LCK654	Sulphite	0.1 - 5.0 mg/L SO_3	HACH LANGE Method			25		■	■	-	-
LCK332	Surfactants, anionic	0.05 - 2.0 mg/L	Methylene Blue (MBA)	ISO 7875-1-2-1984, DIN 38409-H 23-1		25		■	■	Xn	GHS07, GHS08
LCK331	Surfactants, cationic	0.2 - 2.0 mg/L	Bromophenol Blue			25		■	■	Xn, F	GHS02, GHS07, GHS08
LCK333	Surfactants, nonionic	0.2 - 6.0 mg/L as TRITON x 100	TBPE	DIN 38409-H23-2	LCA333	25		■	■	Xn	GHS02, GHS08
LCK334	Surfactants, nonionic	0.1 - 20 g/L	CTAS	DIN 38409-H23-2		25		■	■	Xn	GHS07, GHS08
LCK433	Surfactants, nonionic	6 - 200 mg/L as TRITON x 100	TBPE	DIN 38409-H23-2		25		■	■	Xn	GHS02, GHS08
LCK359	Tin	0.1 - 2.0 mg/L Sn	Pyridinfluoron (PYF)			24		■	■	T, O	GHS02, GHS03, GHS07, GHS08
LCK380	TOC	2 - 65 mg/L C	Difference Method (TOC is determined as the difference between the TC and TIC values), Persulphate Digestion	DIN 38409-H3	2833249	25		■	■	Xn, Xi, O	GHS03, GHS07, GHS08
LCK381	TOC	60 - 735 mg/L C	Difference Method (TOC is determined as the difference between the TC and TIC values), Persulphate Digestion	DIN 38409-H3	2833149	25		■	■	Xn, O	GHS03, GHS07, GHS08
LCK385	TOC	3 - 30 mg/L C	Purging Method, Persulphate Digestion	EN 1484 ,DIN 38409-H3	LCA704	25		■	■	Xn	GHS07, GHS08
LCK386	TOC	30 - 300 mg/L C	Purging Method, Persulphate Digestion	EN 1484, DIN 38409-H3	LCA703	25		■	■	Xn	GHS07, GHS08
LCK387	TOC	300 - 3000 mg/L C	Purging Method, Persulphate Digestion	EN 1484, DIN 38409-H3	LCA705	20		■	■	Xn	GHS07, GHS08
LCK242	Vicinal diketones (VDK)	0.015 - 0.5 mg/kg Diacetyl	Analogous MEBAK-Method	MEBAK II		25			■	T, N	GHS05, GHS06, GHS08, GHS09
LCK327	Water hardness	1 - 20 °dH	Metalphthalein		2833449	25		■	■	-	-
LCK427	Water hardness, residual	0.02 - 0.6 °dH	Metalphthalein		2833449	24		■	■	Xi	-
LCK360	Zinc	0.2 - 6.0 mg/L Zn	PAR		LCA701	24	■	■	■	Xn	GHS07
LCS360	Zinc, trace	0.02 - 0.8 mg/L Zn	PAR		LCA701	24		■	■	Xn	GHS07
LCK364	Zirconium	10 - 60 mg/L Zr	SurTec/HACH LANGE Method			12 - 24	■	■	■		GHS05

Which Powder Pillows for my photometer?

Quick reference guide

Powder Pillows - low-price methods with long shelf life



Powder Pillows are available for a large number of parameters and measuring ranges. Hermetically sealed in aluminium foil pillows, the PERMACHEM reagents have a shelf life of many years. The reagent is simply poured into the measuring cuvette together with the sample. The evaluation can be carried out visually, e.g. with a colour disk, or with a HACH LANGE photometer.

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2242000	Aluminium	0.008 - 0.800 mg/L Al	Aluminon	1417442	100	■	■	■	■	Xi	*
2603700	Aluminium	0.002 - 0.250 mg/L Al	Eriochrome Cyanine R	1417442	100			■	■	F, Xn	*
2653299	Ammonia	0.01 - 0.50 mg/L NH_3-N	Salicylate	189149	100	■	■	■	■	Xn	*
2668000	Ammonia	0.01 - 0.50 mg/L NH_3-N	Salicylate	15349	100	■	■	■	■	Xn	*
2459200	Ammonium compounds, quaternary	0.2 - 5.0 mg/L as CTAB	Direct Binary Complex		100			■	■	Xi	GHS07
1206499	Barium	2 - 100 mg/L Ba	Turbidimetric	1461142	100			■	■	Xi	*
2141299	Benzotriazole, Tolyltriazole Benzotriazole, Tolyltriazole	1.0 - 20.0 mg/L Tolyltriazole 1.0 - 16.0 mg/L Benzotriazole	UV Photolysis		100		■	■	■	Xn	*
1417099	Boron	0.2 - 14.0 mg/L B	Carmine		100			■	■	-	*
2802246	Chloramine, mono	0.04 - 4.50 mg/L Cl_2	Indophenol		50	■	■	■	■	C, Xn	*
2105569	Chlorine, free	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	100	■	■	■	■	-	*
1407099	Chlorine, free	0.1 - 10.0 mg/L Cl_2	DPD		100	■	■	■	■	-	*
2105528	Chlorine, free, Chlorine dioxide	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	1000	■	■		■	-	*
2105628	Chlorine, total	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	1000	■	■		■	-	*
2105669	Chlorine, total, Bromine, Iodine	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	100	■	■	■	■	-	*
2770900	Chlorine dioxide	0.04 - 5.00 mg/L ClO_2	DPD/Glycine		100	■	■	■	■	-	*
1271099	Chromium	0.010 - 0.700 mg/L Cr (VI)	1,5-Diphenylcarbohydrazide	1425610	100	■	■	■	■	Xi	*
2242500	Chromium, total	0.01 - 0.70 mg/L Cr	Alkaline Hypobromite Oxidation	1425610	100		■	■	■	T, C	*
2651600	Cobalt, Nickel	0.01 - 2.00 mg/L Co	PAN	2150342, 1417642	100	■		■	■	T, Xi	*
2105869	Copper	0.04 - 5.00 mg/L Cu	Bicinchoninate	12842	100	■	■	■	■	-	GHS07
2603300	Copper	2 - 210 µg/L Cu	Porphyrin	12842	100		■	■	■	Xn	*
2430200	Cyanide	0.002 - 0.240 mg/L CN	Pyridine-Pyrazalone		100		■	■	■	-	*
246066	Cyanuric acid	5 - 50 mg/L	Turbidimetric		50		■	■		-	*
2544800	Iron	0.01 - 1.80 mg/L Fe	FerroMo	1417542	100		■	■	■	-	*
2105769	Iron	0.02 - 3.00 mg/L Fe	FerroVer	1417542	100	■	■	■	■	Xn	*

PC II: Single Parameter Colorimeter, DR 900: Multi-Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

Which Powder Pillows for my photometer?

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2608799	Iron	0.012 - 1.800 mg/L Fe	TPTZ	1417542	100	■	■	■	■	Xn	*
230166	Iron	0.009 - 1.400 mg/L Fe	FerroZine	1417542	50		■	■	■	T	*
103769	Iron, ferrous	0.02 - 3.00 mg/L Fe (II)	1,10 Phenanthroline	1417542	100		■	■	■	Xn, N	*
2430000	Manganese	0.1 - 20.0 mg/L Mn	Periodate Oxidation	1279142	100	■	■	■	■	Xi, O	*
2604100	Molybdenum	0.3 - 40.0 mg/L Mo	Mercaptoacetic Acid	1426510	100		■	■	■	Xn	*
2449400	Molybdenum, Molybdate	0.02 - 3.00 mg/L Mo	Ternary Complex	1426510	100	■	■	■	■	-	*
2243500	Nickel	0.02 - 1.80 mg/L Ni	Heptoxime	1417642	50			■	■	Xn	*
2106169	Nitrate	0.3 - 30.0 mg/L NO_3-N	Cadmium Reduction	30749	100	■	■	■	■	T, N	*
2429800	Nitrate	0.01 - 0.50 mg/L NO_3-N	Cadmium Reduction	30749	100		■	■	■	T, Xi, N	*
2107169	Nitrite	0.002 - 0.300 mg/L NO_2-N	Diazotisation	2340249	100		■	■	■	Xi	*
2107569	Nitrite	2 - 250 mg/L NO_2	Ferrous Sulphate		100		■	■	■	Xi	*
2446600	Oxygen scavengers	5 - 600 g/L Carbohydrazide	Iron Reduction		100		■	■	■	C	*
2243900	Phenols	0.002 - 0.200 mg/L Phenol	4-Aminoantipyrine		100			■	■	Xn	*
2106069	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	256949	100	■	■	■	■	Xi	*
212528	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	256949	1000	■		■	■	Xi	*
2106028	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	256949	1000	■	■	■	■	Xi	*
2429700	Phosphonates	0.02 - 2.50 mg/L	Persulfate UV Oxidation		100	■	■	■	■	O, Xi, N	*
2459100	Potassium	0.1 - 7.0 mg/L K	Tetraphenylborate	2240442	100			■	■	F, T, Xi	*
2429600	Silica	1 - 100 mg/L SiO_2	Silicomolybdate	110649	100	■	■	■	■	Xn	GHS07
2459300	Silica	0.010 - 1.600 mg/L SiO_2	Heteropoly Blue	110649	100		■	■	■	Xn	*
2296600	Silver	0.02 - 0.70 mg/L Ag	Colorimetric	1461342	50			■	■	T, Xi	*
2106769	Sulphate	2 - 70 mg/L SO_4	SulfaVer 4, turbidimetric	257849	100	■	■	■	■	T	*
2495300	Total Kjeldahl Nitrogen (TKN)	1 - 150 mg/L TKN	Nessler		250		■	■	■	T+, C, N	*
2429300	Zinc	0.01 - 3.00 mg/L Zn	Zincon	237842	100	■	■	■	■	T, N	*

Which SWIFTESTs for my photometer?

Quick reference guide

The right amout of DPD with the SWIFTEST



The SWIFTEST is a powder dispenser that releases the correct amount of DPD (N,N-diethyl-p-phenylenediamine) at the press of a button. It contains enough reagent for 250 chlorine tests (free or total chlorine). As a practical, attractively priced alternative, the SWIFTEST is ideal for laboratories with a high sample throughput, and for analysis in the field.

Article number	Product description	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2802400	SWIFTEST DPD Total chlorine reagent dispenser and reagent vial	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	250	■	■	■	■	-	GHS07
2802300	SWIFTEST DPD Free chlorine reagent dispenser and reagent vial	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	250	■	■	■	■	-	*
2105660	DPD Total chlorine, SWIFTEST dispenser reagent (refill)	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	250	■	■	■	■	-	GHS07
2105560	DPD Free Chlorine, SWIFTEST dispenser reagent (refill)	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	250	■	■	■	■	-	-

PC II: Single Parameter Colorimeter, DR 900: Multi-Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

Which ACCUVACs for my photometer?

Quick reference guide

ACCUVAC - analysing without pipetting



The secret of the ACCUVAC is the vacuum in the sealed glass cuvette containing a measured amount of reagent. The test is carried out by immersing the tip of the ACCUVAC in the sample, then breaking it by applying moderate pressure. The vacuum draws the sample into the cuvette, whilst ensuring thorough mixing. The resulting colour is measured visually or photometrically.

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2502025	Chlorine, free, Chlorine dioxide	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	25	■	■	■	■	-	*
2503025	Chlorine, total, Bromine, Iodine	0.05 - 4.50 mg/L Br_2	DPD	2630020	25	■	■	■	■	-	*
2503025	Chlorine, total, Bromine, Iodine	0.07 - 7.00 mg/L I_2	DPD	2630020	25	■	■	■	■	-	*
2503025	Chlorine, total, Bromine, Iodine	0.02 - 2.00 mg/L Cl_2	DPD	2630020	25	■	■	■	■	-	*
2505025	Chromium	0.010 - 0.700 mg/L Cr (VI)	1,5-Diphenylcarbohydrazide	1425610	25	■	■	■	■	Xi	*
2504025	Copper	0.04 - 5.00 mg/L Cu	Bicinchoninate	2833649	25	■	■	■	■	Xn	*
2506025	Fluoride	0.02 - 2.00 mg/L F	SPADNS	29153	25	■	■	■	■	C	*
2507025	Iron	0.02 - 3.00 mg/L Fe	FerroVer	1417542	25	■	■	■	■	Xn	*
2510025	Iron	0.012 - 1.800 mg/L Fe	TPTZ	1417542	25	■	■	■	■	Xn	*
2514025	Iron	0.02 - 3.00 mg/L Fe (II)	1,10 Phenanthroline	2833649	25		■	■	■	Xn, N	*
2511025	Nitrate	0.3 - 30.0 mg/L mg/L NO_3-N	Cadmium Reduction	30749	25	■	■	■	■	T+, N	*
2512025	Nitrite	0.002 - 0.300 mg/L NO_2-N	Diazotisation	2340249	25		■	■	■	Xi	*
2501025	Oxygen, dissolved	6 - 800 µg/L O_2	Indigo Carmine		25		■	■	■	-	*
2515025	Oxygen, dissolved	0.3 - 15.0 mg/L O_2	HRDO		25	■	■	■	■	Xn, N	*
2516025	Ozone	0.01 - 0.25 mg/L O_3	Indigo		25	■	■	■	■	Xn	*
2517025	Ozone	0.01 - 0.75 mg/L O_3	Indigo		25	■	■	■	■	Xn	*
2518025	Ozone	0.01 - 1.50 mg/L O_3	Indigo		25		■	■	■	Xn	*
2508025	Phosphate	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	256949	25	■	■	■	■	Xi	*
2525025	Phosphate, ortho	0.3 - 45.0 mg/L PO_4	Molybdovanadate	256949	25		■	■	■	C	*
2509025	Sulphate	2 - 70 mg/L SO_4	SulfaVer 4	257849	25	■	■	■	■	T	*

PC II: Single Parameter Colorimeter, DR 900: Multi-Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

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-: product is not subject to classification

Hazard code descriptions: see page 19

Which liquid reagent tests for my photometer?

Quick reference guide

Reagent solutions, economic liquid reagent tests and rapid liquid systems



Reagent tests for the determination of numerous parameters required in drinking, waste and process water applications as well as product control and monitoring. A cost-effective solution for your high-volume testing and serial analysis.

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2458200	Ammonia	0.02 - 2.50 mg/L NH_3-N	Nessler		250		■	■	■	T+, N	*
2242200	Cadmium	0.7 - 80 g/L Cd	Dithizone	1402442	60 - 100			■	■	T+, C, N	*
2556900	Chlorine	0.02 - 2.00 mg/L Cl_2	DPD	1426810, 2630020	450			■	■	Xn, N	*
2557000	Chlorine	0.02 - 2.00 mg/L Cl_2	DPD	2630020, 1426810	450			■	■	C, Xn, N	*
HPT310	Chlorine	0.02 - 2.00 mg/L Cl_2	DPD	2630020, 1426810	100	■	■	■	■	Xi	*
HPT210	Chlorine, free	0.02 - 2.00 mg/L Cl_2	DPD	2630020, 1426810	100	■	■	■	■	Xi	*
LCW510	Chlorine/Ozone	0.1 - 1.5 mg/L Cl_2 / O_3 (round cuvette)	DPD					■	■	-	GHS07
2242300	Chlorine dioxide	0.01 - 1.00 mg/L ClO_2	Chlorophenol Red		100			■	■	Xi	*
HPT240	Chlorine dioxide	0.02 - 0.50 mg/L ClO_2	Amaranth Method		100			■	■	-	*
2651600	Cobalt, Nickel	0.01 - 2.00 mg/L Co	PAN	2150342, 1417642	100	■		■	■	T, Xi	*
44449	Fluoride	0.02 - 2.00 mg/L F	SPADNS	29153	125	■	■	■	■	C	*
2257700	Formaldehyde	3 - 500 µg/L CH_2O	MBTH		100			■	■	Xn	*
2603100	Hardness	8 - 1000 µg/L $CaCO_3$	Chlorophosphonazo	2833449	100			■	■	Xn,	*
2319900	Hardness, Ca and Mg	0.05 - 4.00 mg/L Ca as $CaCO_3$	Calmagite Colorimetric	218710	100		■	■	■	C	*
179032	Hydrazine	4 - 600 µg/L N_2H_4	p-Dimethylaminobenzaldehyde		100		■	■	■	C	*
LCW025	Hydrazine	0.01 - 2.0 mg/L N_2H_4	4-Dimethylaminobenzaldehyde		60			■	■	-	GHS05
LCW058	Hydrogen peroxide	1 - 10 g/L H_2O_2	Peroxomolybdate		40			■	■	-	GHS05
230149	Iron	0.009 - 1.400 mg/L Fe	FerroZine	1417542	500 - 1000			■	■	T	*
LCW021	Iron	0.005 - 0.25 mg/L Fe	Iron(II) ions react with FerroZine to form a violet complex compound		50			■	■	C	GHS05
2375000	Lead	5 - 150 µg/L Pb	LeadTrak	1426210	20	■		■	■	C	*

PC II: Single Parameter Colorimeter, DR 900: Multi-Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

Please note: Some methods require reagent blanks. For these, the number of tests varies.

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

Which liquid reagent tests for my photometer?

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	PC II	DR 900	DR 3900	DR 6000	EU hazard code	GHS hazard code
2651700	Manganese	0.006 - 0.700 mg/L Mn	PAN	1279142	50	■	■	■	■	T, N	*
LCW532	Manganese	0.005 - 0.5 mg/L Mn	1-(2-pyridylazo)-2-naphthol (PAN)		50			■	■	T, C, N, Xi	GHS02, GHS05, GHS06, GHS08, GHS09
LCW032	Manganese	0.2 - 5 mg/L Mn (round cuvette or 10 mm rectangular cuvette)	Formaldoxime	LCA706	50					T	GHS05, GHS06, GHS07, GHS08, GHS09
2658300	Mercury	0.1 - 2.5 µg/L Hg	Cold Vapour Concentration	1419542	25			■	■	O, T, C	*
2076032	ortho Phosphate	0.3 - 45.0 mg/L PO_4	Molybdovanadate	2109210	50		■	■	■	C	*
2657512	pH	6.5 - 8.5 units	Colorimetric Phenol Red		50	■	■			-	*
2076049	Phosphate	0.3 - 45.0 mg/L PO_4	Molybdovanadate	2109210	250			■	■	C	*
2244100	Phosphate	0.23 - 30.00 mg/L PO_4	Amino Acid	2109210	100		■	■	■	T	*
LCW250	Reducing agent	0.02 - 1.0 mg/L DEHA	Iron Reduction Method		100			■	■	C	
2553500	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	110649	100			■	■	Xi	*
2581400	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	110649	40			■	■	Xi	*
2678500	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	110649	250			■	■	Xn	*
LCW028	Silica	0.01 - 0.8 mg/L SiO_2	Molybdenum Blue		50			■	■	Xi, Xn	
2244500	Sulphide	5 - 800 µg/L S^{2-}	Methylene Blue		100		■	■	■	C, T	*
LCW053	Sulphide	0.1 - 2.0 mg/L S^{2-}	Dimethyl-p-phenylenediamine		25 - 49			■	■	C	
HPT430	Sulphite	0.1 - 5.0 mg/L SO_3	HACH LANGE Method	2267410	100			■	■	-	*
LCW054	Sulphite	0.1 - 5.0 mg/L SO_3	HACH LANGE Method	2267410	100			■	■	-	GHS07
2244600	Tannin & Lignin	0.1 - 9.0 mg/L as Tannic Acid	Tyrosine		100		■	■	■	-	*
2790800	Trihalomethanes	10 - 600 µg/L $CHCl_3$	THM Plus		50 - 99			■	■	T, C	*
2244700	Volatile acids	27 - 2800 mg/L HOAc	Esterification		100		■	■	■	C, Xn, N	*

Which TEST‘N‘TUBEs for my photometer?

Quick reference guide

TEST‘N‘TUBEs - Safe and convenient testing



TEST‘N‘TUBE cuvette tests are completely equipped with all premeasured reagents, optimised for reliable measuring results and easy handling. Capped 16 mm vials provide a self-contained package for mixing and measurement. All necessary reagents and vials are contained in the package.

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	DR 900	EU hazard code	GHS hazard code
2604545	Ammonia	0.02 - 2.50 mg/L NH_3-N	Salicylate	189149, 15349	25 - 50	■	C, Xn	*
2606945	Ammonia	0.4 - 50.0 mg/L NH_3-N	Salicylate	189149, 15349	25 - 50	■	C, Xn	*
2105545	Chlorine	0.09 - 5.00 mg/L Cl_2	DPD	1426810, 2630020	50		-	*
2125851	COD	3 - 150 mg/L O_2	Dichromate	1218629, 1218649, 2253929	25	■	C	GHS05, GHS06, GHS08, GHS09
2125951	COD	20 - 1500 mg/L O_2	Dichromate	1218629, 1218649, 2253929	25	■	T, C	GHS05, GHS06, GHS08, GHS09
2345852	COD	25 - 150 mg/L O_2	Dichromate without mercury	1218629, 1218649, 2253929	25	■	C	GHS05, GHS09
2345952	COD	0 - 1500 mg/L O_2	Dichromate without mercury	1218629, 1218649, 2253929	25	■	T, C	GHS05, GHS06, GHS08, GHS09
2415851	COD	0.7 - 40 mg/L O_2	Dichromate	1218629, 1218649, 2253929	25	■	C	GHS05, GHS08, GHS09
2415951	COD	200 - 15000 mg/L O_2	Dichromate	1218629, 1218649, 2253929	25	■	T, C	GHS05, GHS06, GHS08, GHS09
2623451	COD	20 - 1000 mg/L O_2	Manganese (III)	1218629, 1218649, 2253929	25	■	C	*
2605345	Nitrate	0.2 - 30.0 mg/L NO_3-N	Chromotropic Acid	30749	50	■	C	GHS05, GHS07
2608345	Nitrite	0.003 - 0.500 mg/L NO_2-N	Diazotization	2340249	50	■	Xi	*

DR 900: Multi-Parameter Colorimeter

Please note: Some methods require reagent blanks. For these, the number of tests varies.

*: GHS hazard code will be available in the future

-: product is not subject to classification

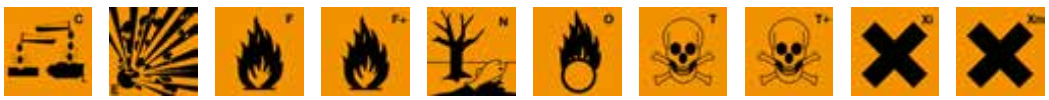
Hazard code descriptions: see page 19

Which TEST'N'TUBEs for my photometer?

Article number	Parameter	Measuring range	Method	Quality control	Number of tests	DR 900	EU hazard code	GHS hazard code
2672245	Nitrogen, total	0.5 - 25.0 mg/L N	Persulphate Digestion	189149, 15349, 2406549	25 - 50	■	C, O	GHS03, GHS05, GHS07, GHS08
2714100	Nitrogen, total	10 - 150 mg/L N	Persulphate Digestion	15349, 2406549	25 - 50	■	C, O	GHS03, GHS05, GHS07, GHS08
2742545	Phosphate	0.06 - 5.00 mg/L PO_4	Ascorbic Acid	2109210	25 - 50	■	Xi	GHS07
2742745	Phosphate	0.06 - 5.00 mg/L PO_4	Ascorbic Acid	2109210	25 - 50	■	C, O	GHS03, GHS05, GHS07, GHS08
2767345	Phosphate, ortho	1.0 - 100.0 mg/L PO_4	Molybdovanadate	256949	25 - 50	■	Xi	*
2742645	Phosphate, total	0.06 - 3.50 mg/L PO_4	PhosVer 3 with Acid Persulfate Digestion	2109210	25 - 50	■	C, O	GHS03, GHS05, GHS07, GHS08
2767245	Phosphate, total	1.0 - 100 mg/L PO_4	Molybdovanadate with Acid Persulfate Digestion	256949	25 - 50	■	C, O	GHS03, GHS05, GHS07, GHS08
2760345	TOC	0.3 - 20.0 mg/L C	Direct		25 - 50	■	O, C, Xn	GHS03, GHS05, GHS07, GHS08
2760445	TOC	100 - 700 mg/L C	Direct		25 - 50	■	O, C, Xn	GHS03, GHS05, GHS07, GHS08
2815945	TOC	15 - 150 mg/L C	Direct		25 - 50	■	O, C, Xn	GHS03, GHS05, GHS07, GHS08

EU hazard codes

C: E: F: F+: N: O: T: T+: Xi: Xn:



GHS hazard codes

GHS01: GHS02: GHS03: GHS04: GHS05: GHS06: GHS07: GHS08: GHS09:



HACH LANGE

Standard Solutions - Multi-parameter for Analytical Quality Assurance



The comprehensive ADDISTA AQA system for HACH LANGE cuvette tests contains a standard solution plus two round-robin solutions which allow the user to participate in analysis checking free of charge.
Lot number, expiry date and target values by parameter are delivered via RFID tag on the packaging.

Article number	For the following cuvette tests / parameters
LCA700	- LCK304 Ammonium, 0.015-2.0 mg/L NH_4-N - LCK311 Chloride, 1-70 mg/L Cl - LCK228 Potassium, 5-50 mg/L K - LCK328 Potassium, 8-50 mg/L K - LCK348 Phosphate (ortho), 0.5-5.0 mg/L PO_4-P - LCK414 COD, 5-60 mg/L O_2 - LCK238 LATON, 5-40 mg/L TN_b
LCA701	- LCK306 Lead, 0.1-2.0 mg/L Pb - LCK321 Iron, 0.2-6.0 mg/L Fe - LCK329 Copper, 0.1-8.0 mg/L Cu - LCK337 Nickel, 0.1-6.0 mg/L Ni - LCK353 Sulphate, 150-900 mg/L SO_4 - LCK360 Zinc, 0.2-6.0 mg/L Zn
LCA702	- LCK301 Aluminium, 0.02-0.5 mg/L Al - LCK308 Cadmium, 0.02-0.3 mg/L Cd - LCK313 Chromium (VI), 0.03-1.0 mg/L Cr - LCK313 Chromium (total), 0.03-1.0 mg/L Cr - LCS313 Chromium trace, 0.005-0.25 mg/L Cr - LCK353 Sulphate, 150-900 mg/L SO_4
LCA703	- LCK049 Orthophosphate, 1.6-30 mg/L PO_4-P - LCK114 COD, 150-1000 mg/L O_2 - LCI400 COD, 0-1000 mg/L O_2 - LCK303 Ammonium, 2-47 mg/L NH_4-N - LCK311 Chloride, 1-70 mg/L Cl - LCK339 Nitrate, 0.23-13.5 mg/L NO_3-N - LCK350 Phosphate (ortho), 2-20 mg/L PO_4-P - LCK353 Sulphate, 150-900 mg/L SO_4 - LCK386 TOC, 30-300 mg/L C
LCA704	- LCK153 Sulphate, 40-150 mg/L SO_4 - LCK305 Ammonium, 1-12 mg/L NH_4-N - LCK311 Chloride, 1-70 mg/L Cl - LCK314 COD, 15-150 mg/L O_2 - LCK340 Nitrate, 5-35 mg/L NO_3-N - LCK349 Phosphate (ortho), 0.05-1.5 mg/L PO_4-P - LCK385 TOC, 3-30 mg/L C

Article number	For the following cuvette tests / parameters
LCA705	- LCK014 COD, 1000-10000 mg/L O_2 - LCK302 Ammonium, 47-130 mg/L NH_4-N - LCK311 Chloride, 1-70 mg/L Cl - LCK387 TOC, 300-3000 mg/L C
LCA706	- LCK521 Iron trace, 0.01-1.0 mg/L Fe - LCK529 Copper trace, 0.01-1.0 mg/L Cu - LCK537 Nickel trace, 0.05-1.0 mg/L Ni - LCW032 Manganese, 0.02-5.0 mg/L Mn
LCA707	- LCK341 Nitrite, 0.015-0.6 mg/L NO_2-N - LCK614 COD, 50-300 mg/L O_2 - LCK348 Phosphate (total), 0.5-5.0 mg/L PO_4-P
LCA708	- LCK338 LATON, 20-100 mg/L TN_b - LCK514 COD, 100-2000 mg/L O_2 - LCK350 Phosphate (total), 2-20 mg/L PO_4-P
LCA709	- LCK138 LATON, 1-16 mg/L TN_b - LCK614 COD, 50-300 mg/L O_2 - LCK349 Phosphate (total), 0.05-1.5 mg/L PO_4-P - LCK342 Nitrite, 0.6-6.0 mg/L NO_2-N
2833149	- Ammonia 15 mg/L NH_3-N - Nitrate 10 mg/L NO_3-N - COD 500 mg/L O_2 - Phosphate 10 mg/L PO_4 - Sulphate 400 mg/L SO_4 - TOC 161 mg/L C
2833249	- Ammonia 2.0 mg/L NH_3-N / 2.1 mg/L NH_4-N - Nitrate 4.0 mg/L NO_3-N - Phosphate 2.0 mg/L PO_4 - COD 25 mg/L O_2 - Sulphate 50 mg/L SO_4 - TOC 8 mg/L C

Standard Solutions - Single parameter for Analytical Quality Assurance



Regular use of standard solutions can ensure laboratory process control, increase your confidence, and help provide evidence of performance to inspectors, regulators, and clients. Single parameters are available in a variety of analytes and concentrations for proof of accuracy.

Parameter	Article number	Product description	Concentration	EU hazard code	GHS hazard code
Alkalinity	2349732	Sulphuric acid standard solution, 0.035 N, 100 mL MDB	0.035 N	-	*
Alkalinity	20353	Sulphuric acid standard solution, 0.020 N, 1 L	0.020 N	-	*
Ammonia	15349	Ammonia standard solution, 10 mg/L NH_3-N, 500 mL	10 mg/L NH_3-N	-	*
Ammonia	189149	Ammonia standard solution, 1mg/L NH_3-N, 500 mL	1 mg/L NH_3-N	-	*
Ammonia	2406549	Ammonia standard solution, 100 mg/L NH_3-N, 500 mL	100 mg/L NH_3-N	-	*
AOX	LCA390	ADDISTA Mono standard for AOX cuvette test LCK390	Lot specific concentration	-	*
BOD	LCA555	ADDISTA Mono standard for BOD cuvette test LCK555	200 mg/L O_2	Xn, O	GHS03, GHS07
BOD	1486510	BOD standard solution, 300 mg/L O_2 (NIST), 10 mL, 16 pcs.	300 mg/L O_2	-	*
BOD	1486610	BOD standard solution, 3000 mg/L O_2 (NIST), 10 mL, 16 pcs.	3000 mg/L O_2	-	*
Chlorine	LCA310	ADDISTA Mono standard for chlorine cuvette test LCK310	25 - 30 mg/L Cl_2	-	*
Chlorine	1426810	Chlorine standard solution, 50-75 mg/L Cl_2 (NIST)	50 - 75 mg/L Cl_2	-	*
Chlorine	2630020	Chlorine standard solution, 25-30 mg/L Cl_2 (NIST), 20 pcs.	25 - 30 mg/L Cl_2	-	*
Chlorine	2635300	SpecCheck Gel secondary standard kit-LR chlorine, DPD	0 - 2.0 mg/L Cl_2	-	*
COD	1218629	COD standard solution, 300 mg/L O_2 (NIST), 200 mL	300 mg/L O_2	-	*
COD	2253929	COD standard solution, 1000 mg/L O_2 (NIST), 200 mL	1000 mg/L O_2	-	*
COD	1218649	COD standard solution, 300 mg/L O_2 (NIST), 500 mL	300 mg/L O_2	-	*
Colour	141453	Colour standard solution, 500 Pt Co Units, 1 L	500 Pt Co units	T	*
Colour	2602853	Colour standard solution, 15 Pt Co Units, 1L	15 Pt Co units	T	*
Conductivity	1440042	Sodium chloride standard solution, 1000 µS/cm (NIST), 100 mL	1000 µS/cm	-	*
Conductivity	1440049	Sodium chloride standard solution, 1000 µS/cm (NIST), 500 mL	1000 µS/cm	-	*
Conductivity	210553	Sodium chloride standard solution, 1990 µS/cm (NIST), 1 L	1990 µS/cm	-	*
Conductivity	2971849	Sodium chloride standard solution, 100 µS/cm (NIST), 500 mL	100 µS/cm	-	*
Conductivity	2972249	Sodium chloride standard solution, 10000 µS/cm (NIST), 500 mL	10000 µS/cm	-	*
Iron	1417542	Iron standard solution 100.0 mg/L Fe (NIST), 100 mL	100 mg/L Fe	-	*
Nitrite	2340249	Nitrite standard solution, 250 µg/mL NO_2-N, APHA, 500 mL	250 mg/L NO_2-N	-	*
Phosphate	1424342	Phosphate standard solution, 15 mg/L PO_4, 100 mL	15 mg/L PO_4	-	*
Phosphate	17149	Phosphate standard solution, 50 mg/L PO_4 (NIST), 500 mL	50 mg/L PO_4	-	*
Phosphate	256949	Phosphate standard solution, 1 mg/L PO_4 , 500 mL	1 mg/L PO_4	-	*
Silica	110649	Silica standard solution, 1 mg/L SiO_2 (NIST), 500 mL	1 mg/L SiO_2	-	*
Sulphate	2175749	Sulphate standard solution, 1000 mg/L SO_4 (NIST), 500 mL	1000 mg/L SO_4	-	*
Sulphate	257849	Sulphate standard solution, 50 mg/L SO_4 (NIST), 500 mL	50 mg/L SO_4	-	*
Surfactants, non-ionic	LCA333	ADDISTA Surfactants standard for LCK333 1g/L TRITON x 100	1 g/L TRITON x 100	-	*
Varies	244932	Sulphuric acid standard solution, 5.25 N, 100 mL	5.25 N	C	*
Varies	20253	Sulphuric acid standard solution, 0.100 N, 1 L	0.100 N	-	*
Varies	2332453	Sodium hydroxide standard solution, 6 N, 1 L	6.0 N	C	*
Varies	2339349	Sulphuric acid 0.04 N, 500 mL	0.04 N	-	*
Varies	28249	Potassium hydroxide standard solution, 8.00 N, 500 mL	8.00 N	C	*

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

Sample Preparation



A selection of sample preparation accessories to photometric analysis for the purpose of digestion, filtration, homogenisation, and dilution.

Product description	Article number	EU hazard code	GHS hazard code
Dilution water, organic free, 500 mL	2641549	-	*
Chloride test strips, low range, 30 - 600 mg/L, 40 pcs	2744940	-	*
Chloride test strips, 300 - 6000 mg/L, 0.05 - 1.0 % NaCl , 40 tests	2751340	-	*
CRACK SET Reagent set for metal digestions	LCW902	Xn, C, O	GHS03, GHS05, GHS07, GHS08
Calcium separation set	LCW903	-	GHS07
Membrane filtration set with 50 membrane filters 1.2 µm	LCW904		
Screening test for organic complexing agents	LCW907	-	GHS05
Digestion solution for chloride in concrete	LCW908	C	GHS05
Total Kjeldahl nitrogen, reagents for digestion	LCW909	C	GHS05
Nitrification inhibitor for BOD_5, acc. DIN 38409-51, 35g	LCW910	-	*
Powder dispenser	LCW912		
Membrane filtration set with 50 membrane filters 0.45 µm	LCW916		
CleanUp set for cyanide cuvette test LCK319	LCW923	Xn	GHS08
Chloride elimination set	LCW925	C, O	GHS03, GHS05
Set for digestion of total silver	LCW954	Xn, O	GHS03, GHS07, GHS08
Magnetic stirrer rods, 3 pieces	LYW064		
Chromium digestion for highly loaded samples	LYW513	Xn, O	GHS03, GHS07, GHS08
Magnetic stirrer, 0 - 1500 rpm	LYW854		
Timer clock	LZC902		

*: GHS hazard code will be available in the future

-: product is not subject to classification

Hazard code descriptions: see page 19

Accessories for Cuvette Tests



A selection of accessories for determination of AOX, BOD, cyanide, organic acids, phenols, sludge activity, surfactants and TOC.

TOC Shaker for purging the inorganic carbon (TIC) to determine TOC with LCK385, LCK386 and LCK387.

Product description	Article number
AOX	
CARBODISK Active carbon disks for the AOX reference analysis	LZC910
Magnetic stirrer, 0 - 1500 rpm	LYW854
BOD	
BioKit for BOD_5 cuvette test, as inoculation mat., 20 tests	LZC555
BOD_5 dilution water set	LZC901
Set of reaction glasses with caps, 60 pieces	LZC924
AquaKit for BOD_5 dilution water set	LZC955
Reaction vessels with screw caps, 20 mm diameter, 5 pieces	LZP065
Funnel	EBT006
Beaker 150 mL	HBG011
Magnetic stirrer, 0 - 1500 rpm	LYW854
LT 20 BOD_5 thermostat	LTV073
Cyanide, organic acids and phenols	
MICRO DIST Block, digital, complete	MDI001
MICRO DIST Digestion tubes, user-fill, 10 pieces	A17017
MICRO DIST Digestion tubes, user-fill, 100 pieces	A17117
MICRO DIST Digestion tubes, user-fill, 50 pieces	A17517
MICRO DIST Cap press	17023L
Rack collector 24 positions	17012
Sample rack, 60 positions for 16 mm tubes - AI & ASX-500 samplers	21302
Sludge activity	
Accessory kit sludge activity	LZC918
Membrane filtration set with 50 membrane filters 1.2 µm	LCW904
Surfactants	
LS 120 Shaker for surfactant analysis	LQV148.99.10001
TOC	
Powder dispenser	LCW912
Membrane filtration set with 50 membrane filters 0.45 µm	LCW916
TOC-X5 TOC Shaker for purging method	LQV148.99.00001

Accessories



A selection of cuvette consumables, glass vessels, pipettes, pipette tips, and safety accessories.

Just comfortable: TENSETTE plus electronic pipette complete with rack, storage battery and power supply, 0.2 - 5.0 mL volume.

Product description	Article number
Cuvette consumables	
Rack for 16 HACH LANGE round cuvettes or rectangular cuvettes 10 mm	LYW915
Rack for 8 reaction vessels	LYW918
Rack for 7 cuvettes with layer thickness of 50 mm	ETS016
Cooling rack for 8 tubes (COD tubes, 16 mm)	1864100
Rack, test tube, Polyethylene, 30 mm (O.D.), 21 holes	2497904
Stopper, Neoprene, solid, size 2, 12 pieces	1480802
Stopper for 18 mm glass viewing tube, 6 pieces	173106
Disposable paper tissues, white, 200 pieces	EZZ073
Blank value cuvette set	LCW919
Glass vessels	
Beaker 150 mL	HBG011
Reaction vessels with screw caps, 20 mm diameter, 5 pieces	LZP065
Volumetric flask 50 mL, class A wide neck, NS12/21 PP-stopper, 2 pieces	LZP141
Volumetric flask 100 mL, class A, NS 14/23, PP-stopper, 2 pieces	LZP142
Graduated cylinder 50:1 mL, tall form, class B, 2 pieces	LZP143
Graduated cylinder 100 mL: 1 mL, tall form, class B, 2 pieces	LZP144
Set of reaction glasses with caps, 60 pieces	LZC924
Pipettes, pipette tips	
Pipette tips 1.0-5.0 mL for variable volume pipette, 75 pieces	BBP068
Rack for 5 pipettes	LYW964
TENSETTE plus electronic pipette	BBP087
Pipette, fixed volume, 1.0 mL	BBP163
Pipette, fixed volume, 2.0 mL	BBP164
Pipette, fixed volume, 0.1 mL	LYW785
Pipette, fixed volume, 0.2 mL	LYW790
Pipette tips 0.2-1.0 mL	BBP079
Pipette tips 0.2-5.0 mL for electronic pipette, 10 pieces	LYW250
Pipette tips 0.1 and 0.2 mL	LYW786
Pipette tips 1.0-5.0 mL	LYW787
Pipette tips 0.2-1.0 mL	LYW788
Pipette, variable, volume 1.0-5.0 mL	BBP065
Pipette, variable, volume 0.2-1.0 mL	BBP078
Set of 2 pipettes, variable volume, incl. tips	LZP320
Pipette validation kit	LCA722
Safety accessories	
Safety goggles, transparent, DIN 582, suitable for spectacle wearers	EZZ031
Safety goggles Uvex according DIN 58211, green / purple	EZZ042
Adhesive tape width 75 mm, for transportation of hazardous materials	HYB008
Protective gloves size L, blue, nitrile, powder-free, 50 pieces	SM743L
Protective gloves size 7 (M), blue, nitrile, powder-free, 50 pieces	SM743M
Single use latex gloves size 7 (M), powder-free, green, 100 pieces	SM995417
Single use latex gloves size L, powder-free, green, 100 pieces	SM995418

Photometers

HACH LANGE photometers consistently break innovation barriers to deliver top performance for both routine laboratory tasks and demanding photometry applications. Our photometers are engineered to achieve exceptional analytical accuracy in a simple testing format.



Fully automated water analysis

Including sample preparation, the laboratory robot AP 3900 even processes the critical parameters of COD, total P and total N in parallel.

Spectrophotometers for the lab

The high-performance VIS and UV-VIS spectrophotometers DR 3900 & DR 6000 deliver reliable and traceable measurement results for both routine laboratory analysis and user applications. With RFID technology, IBR+, AQA+ and LINK2SC. Detailed explanations can be found on page 5.

Portable colorimeters for field testing

Designed for use in the field, the handheld outdoor colorimeters DR 900 and POCKETs with battery operation are pre-programmed, easy to use and have a rugged construction.

Benchtop Photometer Finder

Quick reference guide





NEW

	DR 6000 UV-VIS spectrophotometer with RFID technology	DR 3900 Spectrophotometer with RFID technology
IBR+	Automatic test recognition, lot control and expiry date check	
Specific technology	RFID for easy method update, sample ID and Certificate of Analysis	
LINK2SC	Data exchange with SC 1000 controller	
Quality assurance	Function to schedule and document QA with pass/fall indication	
Pre-programmed methods	> 240	> 220
Cuvette compatibility	Rectangular: 10, 20, 30, 50 mm, 1 inch; round: 13 mm, 1 inch Optional 100 mm rectangular cell with additional adapter	Rectangular: 10, 20, 30, 50 mm, 1 inch; round: 13 mm, 1 inch
Display	7" TFT WVGA colour touchscreen	
Operating mode	Transmittance (%), Absorbance and Concentration, Scanning	
Wavelength range	190 - 1100 nm	320 - 1100 nm
Photometric measuring range	± 3 Abs (wavelength range 340 to 900 nm)	
Photometric accuracy	5 mAbs at 0.0 to 0.5 Abs	
	1 % at 0.50 to 2.0 Abs	
Wavelength resolution	0.1 nm	1 nm
Spectral bandwidth	2 nm	5 nm
Optical system	Reference beam, spectral	
Source lamp	Tungsten (VIS), Deuterium lamp (UV)	Tungsten (VIS)
Printer compatibility	Supports most office deskjet printers	
Data storage	5000 measured values (Result, Date, Time, Sample ID, Operator ID)	2000 measured values (Result, Date, Time, Sample ID, Operator ID)
Interfaces	USB type A (2), USB type B, Ethernet, RFID module	
Power supply	Power cord, 100 - 240 V, 50 - 60 Hz	External power supply, 100 - 240 V, 50 - 60 Hz
Dimensions (H x W x D)	215 mm x 500 mm x 460 mm	151 mm x 350 mm x 255 mm
Weight	11 kg	4.2 kg
	Detailed description on pages 30 and 31	**Detailed description on pages 32 and 33**

Portable Photometer Finder

Quick reference guide





NEW

	DR 900 Multi-parameter colorimeter	POCKET Colorimeter II Single parameter colorimeter
Supported chemistry	HACH tests	HACH tests and HACH LANGE cuvette tests
Operating mode	Transmittance (%), Absorbance and Concentration	
Source lamp	Light Emitting Diode (LED)	
Wavelength range	420, 520, 560, 610 nm	varies with model
Photometric measuring range	0 - 2 Abs	
Wavelength accuracy	± 1 nm (fixed, varies with model)	Fixed wavelength ± 2 nm varies with model
Spectral bandwidth	15 nm filter bandwidth	
Photometric accuracy	± 0.005 Abs @1.0 ABS Nominal	
Photometric linearity	± 0.002 Abs (0 - 1 Abs)	
Wavelength selection	Automatic	Fixed wavelength
Stray light	< 1.0 % at 400 nm	
Display	Graphical display 240 x 160 pixel (Backlit)	LCD, backlit
User programmes	10	Custom programming 1
Data storage	500 measured values (result, date, time, sample ID, user ID according to GLP)	10 measured values + time
Cuvette compatibility	1 inch round / 16 mm round (with adapter)	1 inch round / 13 mm round /1cm square (with optional adapter)
Dimensions (H x W x D)	231 mm x 96 mm x 48 mm	155 mm x 61 mm x 35 mm
Weight	0.6 kg with battery	0.23 kg
Environmental conditions: temperature	10 - 40 °C	
Environmental conditions: relative humidity	max. 90 % relative humidity (non-condensing)	
Battery requirements	4 AA size batteries	4 AAA size batteries
Battery life	6 months (typical) at 5 readings a day / 5 day week without backlight (backlight usage will decrease battery life)	2000 tests * backlight will decrease battery life
Interface	USB type Mini IP67	None
Enclosure waterproof rating	IP67	IP67 (excludes battery compartment)
User interface	English, French, German, Italian, Spanish, Portuguese, Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Swedish, Turkish	Numeric
Includes	DR 900 Colorimeter, two 1-inch glass sample cells marked at 10, 20 and 25 mL, two 1 cm plastic sample cells, 1 x 16-mm COD/ TEST'N'TUBE adapter, 4 AA alkaline batteries, instrument manual multilingual printed, instrument and procedure manuals on CD; USB Mini to USB cable, European CE mark.	PC II, sample cells, manual, carry case. Reagents included: 100 tests each for low range or 50 tests each for high range.
	Detailed description on pages 34 and 35	**Detailed description on pages 36 and 37**

AP 3900: Laboratory robot for fully automated water analysis

Laboratory robot for water analysis including sample preparation. Modular concept. Basic version contains COD, total P, total N, Ammonium, Nitrate and Nitrite.

NEW



- Saves time and costs
- Increases productivity and flexibility
- Highest precision and accuracy due to automated procedures
- Parallel execution of different samples and methods
- Reliable by complete traceability of results
- Uses DR 3900 as detector
- Cost effective for 30 or more tests per day

This unique product processes the critical parameters of COD, total P and total N in parallel using our well established, pre-programmed cuvette tests. The control software ensures the optimal sequence for processing all samples to minimise total time to results through sample preparation, digestion of complex samples, waiting times and measurement. Additional samples can be added at any time, even when the sequence is running and the current status of the analysis is accessible any time with a simple mouse click. Rapid yet simple even untrained users are able to enter all necessary information to the system due to the easy-to-use software.



AllPhred demonstrates laboratory automation with AP 3900: The QR code leads you to an animation.

Technical data

Number of cuvette positions 160	**Dosing system (reagent)** Reagent - pipette tips	**Compressed air pressure** 5 bar
Number of heating positions 2 x 24 (optional 2 x 48)	**Calibration** Range 0.2 - 2.0 mL	**Power requirements (Hz)** 50/60 Hz
Number of reagent positions 12	**Measurement method** Automatic HACH LANGE cuvette test (13 mm test tube); 10 times measurement and 2D barcode	**Power requirements (Voltage)** 230 V AC
Number of sample positions 24 (optional 48); 50 mL sample volume	**Detector** DR 3900	**Dimensions (H x W x D)** 950 mm x 1290 mm x 840 mm
Dispenser Calibrated Hamilton Dispenser 2.5 mL	**Photometric accuracy** 1% at 0.5 - 2.0 E	**Temperature** Selectable 40°C, 100°C, 110°C, 148°C and 150°C
Dosing system (sample) Sample - PTFE sheathed needle, ID 2 mm Stirrer with 9 mm paddle	**Photometric linearity** < 0.5 % - 2 E	Subject to change without notice.

Specially designed for AP 3900

APC chemistry - exclusively suitable for the laboratory robot

Article number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	EU hazard code	GHS hazard code
APC303	Ammonium	2 - 47 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA703	100	Xn, N	GHS05, GHS07, GHS09
APC304	Ammonium	0.015 - 2.0 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1	LCA700	100	Xn, N	GHS05, GHS07, GHS09
APC114	COD	150 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA703	100	T, C	GHS05, GHS06, GHS08, GHS09
APC314	COD	15 - 150 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA704	100	T, C	GHS05, GHS06, GHS08, GHS09
APC500	COD	0 - 150 mg/L O_2	Dichromate	ISO 15705	LCA704	100	T, C	GHS05, GHS06, GHS08, GHS09
APC400	COD	0 - 1000 mg/L O_2	Dichromate	ISO 15705	LCA703	100	T, C	GHS05, GHS06, GHS08, GHS09
APC339	Nitrate	0.23 - 13.5 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA703	100	C	GHS02, GHS05, GHS07
APC340	Nitrate	5 - 35 mg/L NO_3-N	2.6-Dimethylphenol	ISO 7890-1-2-1986, DIN 38405 D9-2	LCA704	100	C	GHS02, GHS05
APC341	Nitrite	0.015 - 0.6 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA707	100	Xi	GHS07
APC342	Nitrite	0.6 - 6.0 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA709	100	Xi	GHS07
APC138	Nitrogen total (LATON)	1 - 16 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA709	50	T, C	GHS02, GHS05, GHS07, GHS08
APC238	Nitrogen total (LATON)	5 - 40 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA700	50	T, C	GHS02, GHS05, GHS07, GHS08
APC338	Nitrogen total (LATON)	20 - 100 mg/L TN_b	Koroleff Digestion (Peroxodisulphate), and Photometric Detection with 2.6-Dimethylphenol	EN ISO 11905-1	LCA708	50	T, C	GHS02, GHS05, GHS07, GHS08
APC348	Phosphate	0.5 - 5.0 mg/L PO_4-P	Phosphormolybdenum Blue	EN ISO 6878-1-1986, DIN 38405 D11-4	LCA700, LCA707	100	C	GHS05, GHS07, GHS08
APC349	Phosphate	0.05 - 1.5 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA704, LCA709	100	C	GHS05, GHS07, GHS08
APC350	Phosphate	2 - 20 mg/L PO_4-P	Phosphormolybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA703, LCA708	100	C	GHS05, GHS07, GHS08

APC chemistry was specially developed for the AP 3900 laboratory robot and only runs on this instrument.
Please note: APC400 and APC500 require reagent blanks. For these, the number of tests varies.
Hazard code descriptions: see page 19

Order information

Article number	Product description	
SMAP3900-MULTI	AP 3900 Multi laboratory robot standard configuration	Laboratory robot for water analysis including sample preparation. Modular concept. Basic version contains COD, total P, total N, Ammonium, Nitrate and Nitrite.
SMUPGRADE-24F	Filtration upgrade incl. software for the AP 3900 (24 pos)	
SMUPGRADE-48S	AP 3900 multi upgrade kit to 48 sample positions	
SMUPGRADE-96H	Heater upgrade incl. software for the AP 3900 (2 x 48 pos)	
LZX521	Compressor with connection kit, 2 x fitting 1/4'' outer , 5 m tubing	

DR 6000: Combining quality and efficiency in the professional laboratory

The UV-VIS spectrophotometer delivers top performance for both routine laboratory tasks and demanding photometry applications.

NEW



- Improved laboratory efficiency - more than 240 pre-programmed methods directly available
- Comparable and reliable results - with the approved HACH LANGE cuvette tests
- Transparent working processes in every situation - with access to all raw data
- Integrated Quality Assurance - with function for scheduling, evaluation, documentation
- Optimised data management, LIMS compatible
- Traceability back to the sampling point by means of RFID technology

The new UV-VIS spectrophotometer is engineered and manufactured in Germany to deliver in fourth generation exceptional analytical accuracy. The Czerny-Turner monochromator design reduces aberrations and guarantees a minimal spectral bandwidth. The output coupler mirror optimally aligns the measurement beam.

Four sequential band-pass filters reduce internal scattered light. The reference beam technology compensates for signal fluctuations in the instrument. Two low-noise silicon detectors ensure high selectivity and basic stability of the measurement signal.

The UV-VIS spectrophotometer unites reliable results with efficiency. The intuitive menu navigation with colour touch screen allows you to enter and calibrate your own methods in just a few simple steps. The instrument provides a wide range of pre-programmed methods. Application packages, e.g. for enzymology and colorimetry, open up further application opportunities including drinking water and brewery analysis.



Application solftware available for drinking water, breweries and food industry.



Technical data

IBR+
Automatic test recognition, lot control and expiry date check

Specific technology
RFID for easy method update, sample ID and Certificate of Analysis

LINK2SC
Data exchange with SC 1000 controller

Quality assurance
Function to schedule and document QA with pass/fall indication

Pre-programmed methods
> 240

Cuvette compatibility
Rectangular: 10, 20, 30, 50 mm, 1 inch;
round: 13 mm, 1 inch
Optional 100 mm rectangular cell with additional adapter

Display
7" TFT WVGA colour touchscreen

Operating mode
Transmittance (%), Absorbance and Concentration, Scanning

Wavelength range
190 - 1100 nm

Photometric measuring range
± 3 Abs (wavelength range 340 to 900 nm)

Photometric accuracy
5 mAbs at 0.0 to 0.5 Abs
1 % at 0.50 to 2.0 Abs

Wavelength resolution
0.1 nm

Spectral bandwidth
2 nm

Optical system
Reference beam, spectral

Source lamp
Tungsten (VIS), Deuterium lamp (UV)

Printer compatibility
Supports most office deskjet printers

Data storage
5000 measured values (Result, Date, Time, Sample ID, Operator ID)

Interfaces
USB type A (2), USB type B, Ethernet, RFID module

Power supply
Power cord, 100 - 240 V, 50 - 60 Hz

Dimensions (H x W x D)
215 mm x 500 mm x 460 mm

Weight
11 kg

Subject to change without notice.

Order information

Article number	Product description	
LPV441.99.00011	DR 6000 UV-VIS spectrophotometer with RFID technology	The UV-VIS spectrophotometer delivers top performance for both routine laboratory tasks and demanding photometry applications.
LQV156.99.10011	LOC 100 RFID set for sample identification	The set contains: 1 RFID locator LOC 100, 15 sample RFID tags in 5 colours, 5 location RFID tags and 2 operator RFID tags.
LQV157.99.30001	SIP 10 Sipper set for DR 6000 with 1 cm quartz cell	Sipper set for flow through applications in UV range. 1 cm flow through cell, quartz.
LQV157.99.20001	SIP 10 Sipper set for DR 6000 with 1 inch round cell	Sipper for pour through applications with spectrophotometer DR 6000. With dual path length 1 inch/cm round cell, USB cable and pump tubing.
TSE-CC-DR6000	Comfort contract for DR 6000	Service Package 2.2: Comfort maintenance contract for spectrophotometer DR 6000. Excludes travel and wear parts. Includes warranty extension.
TSE-BC-DR6000	Basic contract for DR 6000	Service Package 2.1: Basic maintenance contract for spectrophotometer DR 6000. Excludes travel and wear parts.
TSE-MC-DR6000	One-off inspection for DR 6000	Service Package 1: One-off inspection for spectrophotometer DR 6000. Excludes travel and wear parts.
TSE-IQOQ-DR6000	Equipment qualification IQOQ for DR 6000	Equipment qualification IQOQ for UV-VIS spectrophotometer DR 6000. Installation and operational qualification. Including required documents, excluding travel and standards.
LZV935	DR 6000 application software for drinking water analysis	The drinking water analysis software LZV925 is a compilation of all spectrophotometric applications that are relevant for drinking water analysis.
LZV936	DR 6000 application software for brewery analysis	The additional brewery analysis software LZV936 is a compilation of all spectrophotometric applications that are relevant for brewery analysis.
LZV937	DR 6000 application software for enzymatic food analysis	The additional software LZV937 is a compilation of enzymology tests manufactured by R-Biopharm AG, Darmstadt that can be performed with spectrophotometer DR 6000 and carousel insert LZV902.99.00001.
LZV938	Remote operating software photometer	The operating software for the photometer allows the instrument to be controlled remotely using a PC.
LZV902.99.00001	Carousel holder 1 cm for DR 6000	Cell holder with 7 positions to measure mini series or ezymatic methods.

DR 3900:
Accuracy from start to finish

High-performance VIS spectrophotometer with RFID technology for reliable and traceable measurement results of routine analysis and user applications.



- Traceability starts with sampling
  Samples are encoded and identified with RFID
- IBR+ increases the reliability of your measurement values
  A 2D barcode on the cuvette delivers lot number and expiry date
- Rapid data updates
  The RFID labeling allows a touchless data transfer
- Quality assurance made easy with AQA+
  Definition and documentation of QA procedures, retrieval of Certificates of Analysis
- Alignment of laboratory and process analysis
  LINK2SC - adjustment of process on-line value and lab reference
- Data transfer is simple via USB or Ethernet

Compact and reliable VIS spectrophotometer with reference beam technology. Samples are traced back to sample location due to RFID technology. Lot number and expiry date information of reagents are now included on the 2D barcode. The RFID module reads out all batch specific information like factors, updated methods and the current batch certificate from cuvette test box. All information can be retrieved immediately on the spectrophotometer and printed out. Process results can be compared to laboratory reference values in the photometer via LINK2SC connection between SC controller and photometer. Data can be exchanged bi-directionally via Ethernet, i.e. matrix corrections of process probes can be done directly from the laboratory.



During the rotating ten times measurement process using the IBR+ barcode reader, the DR 3900 immediately picks up all the information on the cuvette.



Technical data

IBR+
Automatic test recognition, lot control and expiry date check

Specific technology
RFID for easy method update, sample ID and Certificate of Analysis

LINK2SC
Data exchange with SC 1000 controller

Quality assurance
Function to schedule and document QA with pass/fail indication

Pre-programmed methods
> 220

Cuvette compatibility
Rectangular: 10, 20, 30, 50 mm, 1 inch; round: 13 mm, 1 inch

Display
7" TFT WVGA colour touchscreen

Operating mode
Transmittance (%), Absorbance and Concentration, Scanning

Wavelength range
320 - 1100 nm

Photometric measuring range
± 3 Abs (wavelength range 340 to 900 nm)

Photometric accuracy
5 mAbs at 0.0 to 0.5 Abs
1 % at 0.50 to 2.0 Abs

Wavelength resolution
1 nm

Spectral bandwidth
5 nm

Optical system
Reference beam, spectral

Source lamp
Tungsten (VIS)

Printer compatibility
Supports most office deskjet printers

Data storage
2000 measured values (Result, Date, Time, Sample ID, Operator ID)

Interfaces
USB type A (2), USB type B, Ethernet, RFID module

Power supply
External power supply, 100 - 240 V, 50 - 60 Hz

Dimensions (H x W x D)
151 mm x 350 mm x 255 mm

Weight
4.2 kg

Subject to change without notice.

Order information

Article number	Product description	
LPV440.99.00001	DR 3900 Spectrophotometer with RFID technology	High-performance VIS spectrophotometer with RFID technology for reliable and traceable measurement results of routine analysis and user applications.
LPV440.99.10001	DR 3900 RFID spectrophotometer / LOC 100 kit	High-performance VIS spectrophotometer with RFID technology for reliable and traceable measurement results of routine analysis and user applications; sample identification set included.
LQV156.99.10011	LOC 100 RFID set for sample identification	The set contains: 1 RFID locator LOC 100, 15 sample RFID tags in 5 colours, 5 location RFID tags and 2 operator RFID tags.
LQV157.99.10001	SIP 10 Sipper set for DR 3900 with 1 inch round cell	Sipper for pour through applications with spectrophotometer DR 3900. With dual path length 1 inch/cm round cell, USB cable and pump tubing.
TSE-CC-DR3900	Comfort contract for DR 3900	Service Package 2.2: Comfort maintenance contract for spectrophotometer DR 3900. Excludes travel and wear parts. Includes warranty extension.
TSE-BC-DR3900	Basic contract for DR 3900	Service Package 2.1: Basic maintenance contract for spectrophotometer DR 3900. Excludes travel and wear parts.
TSE-MC-DR3900	One-off inspection for DR 3900	Service Package 1: One-off inspection for laboratory spectrophotometer DR 3900. Excludes travel and wear parts.
TSE-IQOQ-DR3900	Equipment qualification IQOQ for DR 3900	Equipment qualification IQOQ for VIS spectrophotometer DR 3900. Installation and operational qualification. Including required documents, excluding travel and standards.

DR 900:
Robust outdoor handheld Colorimeter

Portable and robust, micro-processor-controlled colorimeter with power-saving LED technology. Pre-programmed with 90 HACH Methods.

NEW



- Rugged construction
  Dustproof, waterproof, shockproof
- Designed for use in the field
  True handheld analysis for use anywhere
- Easy to use
  Menu driven, step-by-step analysis
- Reliable results without a main connection
  Improved user interface allowing quick selection of tests
- Configured for immediate use
  Pre-programmed, ready to use out of the box

The handheld colorimeter saves time in the field by allowing quick and easy access to the most used testing methods in less than four clicks. This colorimeter is waterproof, dustproof, shock resistant, and has been drop tested for greater quality assurance.

This instrument comes with an intuitive user interface, a large data store and a built-in USB port for easy transferring of information. The handheld colorimeter also helps satisfy core testing needs by offering at least 90 of the most common testing methods.

Combining all of these features with a push button backlit display for use in low light areas, you have a handheld colorimeter which is field ready in every possible way, and makes testing in harsh field environments a little less challenging.



DR 900 with opened cover and sample cells

Technical data

Operating mode
Transmittance (%), Absorbance and Concentration

Source lamp
Light Emitting Diode (LED)

Wavelength range
420, 520, 560, 610 nm

Photometric measuring range
0 - 2 Abs

Wavelength accuracy
± 1 nm (fixed, varies with model)

Spectral bandwidth
15 nm filter bandwidth

Photometric accuracy
± 0.005 Abs @1.0 ABS Nominal

Photometric linearity
± 0.002 Abs (0 - 1 Abs)

Wavelength selection
Automatic

Stray light
< 1.0 % at 400 nm

Display
Graphical display 240 x 160 pixel (Backlit)

User programmes
10

Data storage
500 measured values (result, date, time, sample ID, user ID according to GLP)

Supported chemistry
HACH tests

Cuvette compatibility
1 inch round / 16 mm round (with adapter)

Dimensions (H x W x D)
231 mm x 96 mm x 48 mm

Weight
0.6 kg with battery

Environmental conditions: temperature
10 - 40 °C

Environmental conditions: relative humidity
max. 90 % relative humidity (non-condensing)

Battery requirements
4 AA size batteries

Battery life
6 months (typical) at 5 readings a day / 5 day week without backlight (backlight usage will decrease battery life)

Interface
USB type Mini IP67

Enclosure waterproof rating
IP67

User interface
English, French, German, Italian, Spanish, Portuguese, Bulgarian, Chinese, Czech, Danish, Dutch, Finnish, Greek, Hungarian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Swedish, Turkish

Includes
DR 900 Colorimeter, two 1-inch glass sample cells marked at 10, 20 and 25 mL, two 1 cm plastic sample cells, 1 x 16-mm COD/TEST'N'TUBE adapter, 4 AA alkaline batteries, instrument manual multilingual printed, instrument and procedure manuals on CD; USB Mini to USB cable, European CE mark.

Subject to change without notice.

Order information

Article number	Product description	
9385200	DR 900 Robust portable datalogging colorimeter	Portable and robust, micro-processor-controlled colorimeter with power-saving LED technology. Pre-programmed with 90 HACH Methods.
4942500	Case assy, DR 800 and DR 900 colorimeter	Suitcase for keeping and transport of colorimeter, accessories and reagents.
2722000	Case, soft 11.5 H x 2.5 D x 11.5 W	Instrument carrying case, soft-sided with shoulder strap
2763900	DR/Check absorbance standard kit	Standard set (4 pcs) for checking of the photometric accuracy
TSE-MC-DR900	One-off inspection for DR 900	Service Package 1: One-off inspection for spectrophotometer DR 900. Excludes travel and wear parts.
TSE-CC-DR900	Comfort contract for DR 900	Service Package 2.2: Comfort maintenance contract for spectrophotometer DR 900. Excludes travel and wear parts. Includes warranty extension.
TSE-BC-DR900	Basic contract for DR 900	Service Package 2.1: Basic maintenance contract for spectrophotometer DR 900. Excludes travel and wear parts.

POCKET Colorimeter II: Small in size, big on waterproof analysis

Portable colorimeter programmed for the determination of one or two parameters. In carrying case, complete with reagents, cuvettes and operating instructions.



- Simple: all functions are available via only four keys
- Powerful: battery operation for up to 2000 tests
- Clear display: a backlit display and large readout for difficult conditions
- Reliable results any place due to battery operation
- Rugged construction yet lightweight
- Waterproof to IP 67: for watertight results!

Technical data

Source lamp Light Emitting Diode (LED)	**Data storage** 10 measured values + time	**Battery requirements** 4 AAA size batteries
Wavelength range varies with model	**Supported chemistry** HACH tests and HACH LANGE cuvette tests	**Battery life** 2000 tests * backlight will decrease battery life
Photometric measuring range 0 - 2 Abs	**Cuvette compatibility** 1 inch round / 13 mm round /1cm square (with optional adapter)	**Enclosure waterproof rating** IP67 (excludes battery compartment)
Wavelength accuracy Fixed wavelength ± 2 nm varies with model	**Dimensions (H x W x D)** 155 mm x 61 mm x 35 mm	**User interface** Numeric
Spectral bandwidth 15 nm filter bandwidth	**Weight** 0.23 kg	**Includes** PC II, sample cells, manual, carry case. Reagents included: 100 tests each for low range or 50 tests each for high range.
Wavelength selection Fixed wavelength	**Environmental conditions: temperature** 10 - 40 °C	
Display LCD, backlit	**Environmental conditions: relative humidity** max. 90 % relative humidity (non-condensing)	
User programmes Custom programming 1		Subject to change without notice.

Order information

Article number	Parameter	Method	Range	Number of tests
Kits for HACH LANGE cuvette tests				
5953000V.01	Ammonium (suitable for LCK303, 304, 305)	Indophenol Blue	2.0 - 47.0 mg/L / 0.015 - 2.0 mg/L / 1.0 - 12.0 mg/L NH_4-N	25
5953000V.02	Chlorine (suitable for LCK310)	DPD	0.05 - 2.0 mg/L Cl_2	24
5953000V.03	COD LR (suitable for LCK314, 614)	Dichromate	15 - 150 mg/L O_2 / 50 - 300 mg/L O_2	25
5953000V.04	COD HR (suitable for LCK014, 114)	Dichromate	1000 - 10000 mg/L O_2 / 150 - 1000 mg/L O_2	25
5953000V.05	Phosphate (suitable for LCK348, 349, 350)	Phosphormolybdenum Blue	0.5 - 5.0 mg/L / 0.05 - 1.5 mg/L PO_4 / 2.0 - 20.0 mg/L PO_4-P	25
5953000V.06	Zinc (suitable for LCK360)	PAR	0.2 - 6.0 mg/L Zn	24
5953000V.07	Chloride (suitable for LCK311)	Iron(III)-Thiocyanate	1 - 70 mg/L / 70 - 1000 mg/L Cl	24
5953000V.08	Formaldehyde (suitable for LCK325)	Acetylacetone	0.5 - 10.0 mg/L H_2CO	24
Kits for HACH tests				
5870025	Aluminum	Aluminon	0.02 - 0.80 mg/L Al	100
5870026	Chloramine, Mono and Free Ammonia	Indophenol	0.02 - 0.50 mg/L NH_3-N / 0.04 - 4.50 mg/L Cl_2	50 - 100
5870040	Nitrogen, Ammonia, mid range	Salicylate	0.01 - 0.80 mg/L NH_3-N	100
5870001	Bromine	DPD	0.05 - 4.50/0.2 - 70.0 mg/L Br_2	50 - 100
5870051	Chlorine Dioxide	DPD	0.05 - 5.00 mg/L ClO_2	100
5870000	Chlorine, low range - as free & total Cl_2	DPD	0.02 - 2.00 / 0.1 - 8.0 mg/L Cl_2	50 - 100
5870012	pH, and high range Chlorine	DPD	0.1 - 10.0 Cl_2 / 6.0 - 8.5 pH	100
5870023	Chlorine, free, SWIFTEST dispenser	DPD	0.02 - 2.00 mg/L Cl_2 / 0.1 - 8.0 mg/L Cl_2	125 - 250
5870024	Chlorine, total, SWIFTEST dispenser	DPD	0.02 - 2.00/0.1 - 8.0 mg /L Cl_2	125 - 250
5870017	Chromium, low range - as Cr (VI)	1,5 Diphenylcarbohydrazide	0.01 - 0.70 mg/L Cr	100
5870019	Copper - as free Cu	Bicinchoninate	0.04 - 5.00 mg/L Cu	100
5870005	Fluoride	SPADNS	0.1 - 2.0 mg/L F	50
5870016	Iron, low range	TPTZ	0.01 - 1.70 mg/L Fe	50 - 100
5870022	Iron, medium range	FerroVer	0.02 - 5.00 mg/L Fe	100
5870021	Lead	LeadTrak Fast Column Extraction	5 - 150 µg/L Pb	20
5870015	Manganese	Periodate Oxidation	0.2 - 20.0 mg/L Mn	100
5870018	Manganese	PAN	0.01 - 0.70 mg/L Mn	50
5870010	Molybdate - as Molybdenum	Ternary Complex	0.02 - 3.00/0.1 - 12.0 mg/L Mo	100
5870020	Nickel & Cobalt	PAN	0.01 - 1.00 mg/L Ni / 0.02 - 2.00 mg/L Co	100
5870002	Nitrate-Nitrogen	Cadmium Reduction	0.4 - 30.0 mg/L NO_3-N	100
5870003	Dissolved Oxygen (DO)	HRDO	0.2 - 10.0 mg/L DO	25
5870004	Ozone	Indigo Trisulfonate	0.01 - 0.25 mg/L O_3	25
5870006	Phosphorus, Orthophosphate (reactive)	Ascorbic Acid	0.02 - 3.00 mg/L PO_4	100
5870007	Phosphonate	Persulfate UV Oxidation	0.1 - 2.5/1 - 125 mg/L PO_4	100
5870034	Silica, high range	Silicomolybdate	1 - 100 mg/L SiO_2	100
5870029	Sulphate	Turbidimetric	2 - 70 mg/L SO_4	100
5870009	Zinc	Zincon	0.02 - 3.00 mg/L Zn	100
Kits for special applications				
5870042	Colorimeter 420 nm			
5870045	Colorimeter 450 nm			
5870050	Colorimeter 500 nm			
5870052	Colorimeter 528 nm			
5870055	Colorimeter 550 nm			
5870058	Colorimeter 580 nm			
5870060	Colorimeter 600 nm			
5870065	Colorimeter 655 nm			

Test kits must be ordered separately.

Subject to change without notice.

HACH LANGE

HT 200S: Fast and cost effective digestion in 15 minutes

Heating block with HSD technology (High Speed Digestion) for extremely fast digestion of samples



- Saves time in the analysis of COD, TN_b, P_{tot} and heavy metals
- Automatic fast cooling
- Variable digestion time and temperature for special digestions
- COD results in just 35 minutes

Technical data

Heating programmes Pre-programmed for 100°C, HT and COD mode and freely selectable 40-170°C, 5-240 min	**Max. operating humidity** 90 %	**Power supply** 230 V +5%/-15%, 50 Hz, 1300 VA
User programmes 9 free temperature/time	**Number of cuvettes** 12 x 20 mm diameter	**Dimensions (H x W x D)** 330 mm x 300 mm x 430 mm
Heating rate from 20 °C - 148 °C in 8 minutes	**Display size** 2 x 16 characters	**Weight** 12 kg
Temperature stability ± 1 °C in conformity with EN, ISO, EPA methods	**Display type** LCD	
Operating temperature range 10 - 45 °C	**User interface** English, French, German, Italian, Spanish, Dutch, Swedish, Polish, Danish	Subject to change without notice.

Order information

Article number	Product description	
LTV077	HT 200S High temperature thermostat	Heating block with HSD technology (High Speed Digestion) for extremely fast digestion of samples
OHA104	Reduction insert for 13 mm cuvettes	
TSE-MC-HT200	One-off inspection for HT 200S	Service Package 1: One-off inspection for laboratory high temp. thermostat HT 200S. Excludes travel and wear parts.
TSE-CC-HT200	Comfort contract for HT 200S	Service Package 2.2: Comfort maintenance contract for high temp. thermostat HT 200S. Excludes travel and wear parts. Includes warranty extension.
TSE-BC-HT200	Basic contract for HT 200S	Service Package 2.1: Basic maintenance contract for high temp. thermostat HT 200S. Excludes travel and wear parts.

LT 200: Thermostat for standard and special digestions

Pre-programmed for all standard digestions and freely programmable for user specific digestions



- ▶ Great flexibility
- ▶ Excellent reproducibility
- ▶ Simple to use

Technical data, dual block version

Heating programmes Pre-programmed for 40°C, 100°C, 148°C and freely selectable from 37-150°C, 1-480 min	**Max. operating humidity** 90 %	**Power supply** 115 V - 230 V +5%/-15%, 50 - 60 Hz, 900 VA max
User programmes 6 free temperature/time	**Number of cuvettes** 21 x 13 mm diameter 4 x 20 mm diameter	**Dimensions (H x W x D)** 145 mm x 250 mm x 310 mm
Heating rate from 20 - 148 °C in 10 minutes	**Display size** 2 x 16 characters	**Weight** 2.8 kg
Temperature stability ± 1 °C in conformity with EN, ISO, EPA methods	**Display type** LCD	
Operating temperature range 10 - 45 °C	**User interface** English, French, German, Italian, Spanish, Dutch, Swedish, Polish	Subject to change without notice.

Order information

Article number	Product description	
LTV082.99.21002	LT 200 Dry thermostat with 2 blocks, 15 x 13 mm, 6 x 13 mm / 4 x 20 mm	- Illuminated digital display for remaining time / temperature and operator guidance - 3 pre-programmed and 6 freely programmable storage spaces - Temperature settings between 37 °C and 150 °C in 1 °C steps, time setting between 1 and 480 min
LTV082.99.10002	LT 200 Dry thermostat with 1 block, 9 x 13 mm / 2 x 20 mm	
LTV082.99.23002	LT 200 Dry thermostat with 2 blocks, 15 x 13 mm, 15 x 13 mm	
LTV082.99.51002	LT 200 Dry thermostat with 2 blocks, 6 x 13 mm and 4 x 20 mm per block	
LZT144	Adapter sleeve LT 200 for MICRO DIST	

Which cuvettes for my photometer?

Quick reference guide

Article number	Optical path length	Material	Volume / Package size	PC II	DR 900	DR 3900	DR 6000
LCW906	13 mm round	Glass	25 pcs 7 mL, with rubber caps			■	■
LZP045	10 mm rectangular	Glass	1 pcs 3.5 mL			■	■
LZP169	50 mm rectangular	Glass	1 pcs 7 mL, semi-micro				■
LZP269	50 mm rectangular	Glass	1 pcs 7 mL, semi-micro			■	■
2095100	10 mm rectangular	Glass	2 pcs 3.5 mL, matched pair, with caps			■	■
2122800	1 inch round	Glass	1 pcs 10 mL, with cap	■	■	■	■
2401906	25 mm round	Glass	6 pcs 25 mL, with caps	■	■	■	■
2427606	1 inch round	Glass	6 pcs 10 mL, with caps	■	■	■	■
2495402	1 inch square	Glass	2 pcs matched pair			■	■
2612602	1 inch square	Glass	2 pcs 25 mL, matched pair, with caps			■	■
2629250	50 mm rectangular	Glass	1 pcs 17,5 mL, with cap			■	■
2665902	1 inch square	Glass	2 pcs 25 mL, matched pair			■	■
LCW919	11 mm round	Glass	5 pcs blank value cuvette set, 7 mL, rubber caps			■	■
LZP167	50 mm rectangular	Optical glass	1 pcs 20 mL			■	■
LZP331	20 mm rectangular	Optical glass	1 pcs 7 mL				■
5940506	1 inch round	Plastic	6 pcs 25 mL, 10 mm & 1 dual pathlength, with cap	■	■	■	■
LZP341	50 mm rectangular	PMMA	10 pcs 7 mL, semi-micro, with caps			■	■
EBK019	10 mm rectangular	Polystyrene	1000 pcs 3.5 mL			■	■
2410212	1 inch rectangular	Polystyrene	12 pcs 25 mL, with caps			■	■
2629500	10 mm rectangular	Polystyrene	100 pcs 1.5 mL,			■	■
4864302	1 inch round	Polystyrene	2 pcs 10 mL, with caps	■	■	■	■
LZP332	10 mm rectangular	Quartz glass	1 pcs 3.5 mL				■
LZP333	50 mm rectangular	Quartz glass	1 pcs 17.5 mL				■
A24209	10 mm rectangular	Quartz glass	1 pcs 160 µL, pour through cell, CH = 10 mm				■
LZV510	10 mm rectangular	Quartz glass	1 pcs 450 µL, pour through cell, CH = 10 mm				■
LZV649	50 mm rectangular	Quartz glass	1 pcs 370 µL, flow through cell				■
2624450	50 mm rectangular	Quartz glass	1 pcs 17.5 mL, with cap				■
2624410	10 mm square	Quartz glass	1 pcs 3.5 mL, with cap				■

PC II: Single Parameter Colorimeter, DR 900: Multi-Parameter Colorimeter, DR 3900: VIS Spectrophotometer, DR 6000: UV-VIS Spectrophotometer

Portable water quality laboratories, BOD laboratory measurement stations



CELs - Factory-configured laboratories for several applications: Colorimeter, reagent sets, required apparatus, additional instruments and all items needed to conduct field testing.	Article number	Product description
	251231	Portable colorimeter laboratory for water conditioning
	251232	Portable colorimeter lab for environmental water quality
	251233	Portable colorimeter laboratory for aquaculture
	251234	Basic portable colorimeter laboratory for drinking water
	251235	Advanced portable colorimeter laboratory for drinking water
	251236	Basic portable colorimeter laboratory for wastewater
	251237	Advanced portable colorimeter laboratory for wastewater
	251238	Portable colorimeter lab for professional water treatment
	251239	Advanced portable colorimeter/pH/conductivity laboratory



DRELs - Factory-configured laboratories for professional water analysis: Photometer with batteries and cuvettes, instrument case, reagent & apparatus case, reagent set, and instrument set.	Article number	Product description
	LZV729	DREL Complete water lab
	LZV735	DREL Industrial water lab



BOD Direct - Respirometric BOD laboratory measurement station, control unit and stirrer with electronic pressure sensors for up to 6 bottles.	Article number	Product description
	LQV158.98.00001	BOD Direct Respirometric BOD apparatus



BOD TRAK II - Manometric BOD(n) laboratory measurement station, control unit and stirrer with pressure sensors for 6 bottles.	Article number	Product description
	2952400	BOD TRAK II Respirometric BOD apparatus with accessories

Instrument quality assurance and documentation

Product description	Article number
Quality assurance	
Test solution set for spectrophotometers	LZV810
Validation filter kit for spectrophotometer	LZV537
Pipette validation kit	LCA722
Documentation	
USB-A4-Printer for spectrophotometer	LYW368
USB barcode hand-scanner for spectrophotometers	LZV566
USB keyboard QUERTY	LZV582

Turbidity instruments

The HACH LANGE turbidity range comprises portable and benchtop instruments in accordance with DIN EN ISO. The available models for specific requirements can be found on our website.



Check out our web portal now!

Benchtop 2100 series

2100 series laboratory turbidimeters are engineered to provide superior accuracy and sensitivity in any application. Since the first laboratory turbidimeter was introduced more than 40 years ago, the system has evolved to include advances in optics, signal processing, and software.

Portable 2100Q series

The 2100Q portable turbidimeter offers a unique combination of advanced features, such as easy calibration and simplified data transfer, and measurement innovation for rapidly settling samples, giving you confidence you are getting accurate results every time.

Further information

Find out more on our website, keywords:
- 2100N
- 2100AN
- 2100Q

Technical specifications, data sheets, manuals, recommended accessories as well as optional service contracts can be retrieved online!

www.hach-lange.com

Electrochemistry

The HACH LANGE electrochemistry portfolio provides the right solution for your testing needs, backed by years of innovation and technical support. Whether you require a simple, dedicated pH meter and electrode or an advanced, expandable, multi-parameter system, HACH LANGE has your answer.



Accurate

You don´t just need an answer, but the right one, and fast. Optimised stabilisation algorithms in HACH LANGE meter platforms eliminate operator guesswork and reduce inaccurate measurements. Many electrodes work specifically to deliver accurate results and the quickest response, even in challenging environments.

Easy to use

Now, more than ever, you are looking for new ways to stretch your budget and resources. Skip studying complicated user manuals and spend your time measuring, thanks to HACH LANGE innovative menu designs and simple keypads for truly intuitive operation.

LDO - the best method to measure oxygen

Luminescence based LDO technology is an established HACH LANGE innovation launched in 2003. The INTELLICAL LDO is a drift-free sensor providing error-free and accurate results at high and low O_2 concentrations with minimum effort. There is no calibration and no replacement of electrolyte. Since it was launched, LDO has proved itself everywhere where O_2 is measured!

HACH LANGE

HQD Meters and INTELLICAL Probes



Easy to use – no matter where you put them to work

HQD's user-friendly meters allow even new operators to produce accurate measurements while reducing possible errors – saving you time and hassle. Additionally, the durable design is built to handle the toughest conditions – in both the field and the lab.

- ▶ Automatically detect the testing parameter and calibration history
- ▶ Large graphic display makes the results easy to read, even in difficult light conditions
- ▶ Mix and match of electrodes and meters ensures reliability and flexibility
- ▶ HQD meters communicate clearly in 13 languages



INTELLICAL smart probes

INTELLICAL digital probes provide ultimate traceability of calibration history. The probes can be moved between meters without the need to recalibrate or re-enter measurement settings.

- ▶ Minimises errors
- ▶ Minimises setup time



Break-through technology

Breakthrough HACH LANGE Luminescent Dissolved Oxygen (LDO) technology, now the standard for measuring dissolved oxygen, eliminates the numerous reliability and maintenance concerns inherent in older DO membrane instruments.

- ▶ No membranes
- ▶ No electrolyte to replace or anode to polish
- ▶ Infrequent calibrations
- ▶ 1-year sensor cap life



SENSION+ Meters and Probes



Comes complete with everything you need to start testing

Each portable and benchtop kit comes complete with everything you need to start testing.

- SENSION+ Field Kits work as complete mobile measurement stations, which include meter, probe, robust carrying case and all supporting chemistries.
- Portable instruments offer real one-hand operation with ergonomic and lightweight design and IP67 protection. Screw-on calibration tubes simplify on-site calibration and minimize buffer consumption.
- SENSION+ Laboratory Stations include meter, probe, integrated probe stand, instrument controlled magnetic stirrer and supporting chemistries.
- The SENSION+ laboratory portfolio covers all application requirements from a basic pH meter up to the multi-channel GLP system for pH, ORP, Conductivity and ISE with data management and full PC driven options.



Simple and fast measurements

A guided navigation menu allows you to follow simple prompts to set up your measurements, reducing the time necessary to start testing, and improving the accuracy of measurements.

- Guided menu makes navigation easy
- Simple prompts to ease set-up
- Keypads designed for truly intuitive operation
- Accurate results with fast response, even in challenging environments



Available for a wide variety of applications

The portfolio of high quality probes built for SENSION+ means that you have the right option for nearly every testing environment.

- pH
- Conductivity
- Dissolved Oxygen
- Multi sensors for pH, ORP and Conductivity
- and much, much more!



For laboratory instruments you may also choose red rod pH electrodes or other high end probes from our large Radiometer probe portfolio - ask for Radiometer probes dedicated to SENSION+.

NEW: SENSION+ Portable Data Logger versions

All-in-one systems - now making testing and data management fast and simple: interval measurements, 500 data point memory and wireless data transfer to your PC. Data management is as fast and simple as can be.

HQD Benchtop Meters



All the benefits of the digital HQD system, with simplified data transfer and easy-to-read results on a large, backlit screen.

Parameter	HQ411D DEDICATED pH/Mv BENCHTOP METER	HQ430D SINGLE INPUT MULTI-PARAMETER BENCHTOP METER WITH PROBE STAND	HQ440D DUAL INPUT MULTI-PARAMETER BENCHTOP METER WITH PROBE STAND
Temperature	■	■	■
pH Glass Non-glass (ISFET)	■	■	■
mV	■	■	■
Conductivity		■	■
TDS		■	■
Salinity		■	■
Resistivity		■	■
Dissolved Oxygen Luminescent (LDO) BOD Sensor (with LDO)		■ ■	■ ■
ORP/Redox	■	■	■
Ammonia		■	■
Ammonium		■	■
Chloride		■	■
Fluoride		■	■
Nitrate		■	■
Sodium		■	■

Specifications	HQ411D DEDICATED pH/Mv BENCHTOP METER	HQ430D SINGLE INPUT MULTI-PARAMETER BENCHTOP METER WITH PROBE STAND	HQ440D DUAL INPUT MULTI-PARAMETER BENCHTOP METER WITH PROBE STAND
Casing IP Rating	IP54	IP54	IP54
Internal result storage capacity	500*	500*	500*
Inputs	M12 digital (1) for INTELLICAL probes	M12 digital (1) for INTELLICAL probes	M12 digital (2) for INTELLICAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001
Interface languages	13**	13**	13**
Warranty	3 years	3 years	3 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE
GLP features	■	■	■
PC data transfer software	included	included	included
Backlight	■	■	■
Battery requirements	4, AA	4, AA	4, AA
AC and USB operation	■	■	■
Article number	**HQ411D.98.00002**	**HQ430D.98.00002**	**HQ440D.98.00002**

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HQD Portable Meters



Now offering a complete water analysis portfolio of testing parameters with standard and rugged options. HACH LANGE's HQD system gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.

Parameter	HQ11D DEDICATED pH/mV PORTABLE METER	HQ14D DEDICATED CONDUCTIVITY PORTABLE METER	HQ30D SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40D DUAL INPUT MULTI-PARAMETER PORTABLE METER
Temperature	■	■	■	■
pH Glass Non-glass (ISFET)	■		■	■
mV	■		■	■
Conductivity		■	■	■
TDS		■	■	■
Salinity		■	■	■
Resistivity		■	■	■
Dissolved Oxygen Luminescent (LDO) BOD Sensor (with LDO)			 ■ ■	 ■ ■
ORP/Redox	■		■	■
Ammonia			■	■
Ammonium			■	■
Chloride			■	■
Fluoride			■	■
Nitrate			■	■
Sodium			■	■

Specifications	HQ11D DEDICATED pH/mV PORTABLE METER	HQ14D DEDICATED CONDUCTIVITY PORTABLE METER	HQ30D SINGLE INPUT MULTI-PARAMETER PORTABLE METER	HQ40D DUAL INPUT MULTI-PARAMETER PORTABLE METER
Casing IP Rating	IP67	IP67	IP67	IP67
Internal result storage capacity	500*	500*	500*	500*
Inputs	M12 digital (1) for INTELLICAL probes	M12 digital (1) for INTELLICAL probes	M12 digital (1) for INTELLICAL probes	M12 digital (2) for INTELLICAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001
Interface languages	13**	13**	13**	13**
Warranty	3 years	3 years	3 years	3 years
Compliance	CE.WEEE	CE.WEEE	CE marking	CE marking
Benchtop	with stand	with stand	with stand	with stand
GLP features	■	■	■	■
PC data transfer software	included	included	included	included
Backlight	■	■	■	■
Battery requirements	4, AA	4, AA	4, AA	4, AA
AC and USB operation	Optional	Optional	Optional	Included
Article number	**HQ11D.99.000000**	**HQ14D.99.000000**	**HQ30D.99.000000**	**HQ40D.99.000000**

*Expanded storage with external USB storage device. **English, German, Spanish, Portuguese, French, Italian, Dutch, Turkish, Polish, Danish, Swedish, Russian, Czech

HACH LANGE

HQD INTELLICAL Probes







Specifications	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity	Conductivity
Special feature	LDO technology. No membranes.	LDO technology. No membranes.	LDO technology. Designed for BOD applications. No membranes.		
Electrode type	Laboratory Luminescent Dissolved Oxygen	Rugged Luminescent Dissolved Oxygen	Laboratory	Laboratory	Rugged Outdoor
Measuring range	0.05 - 20.00 mg/L	0.05 - 20.00 mg/L	0.05 - 20.00 mg/L	Cond.: 0.01 µS/cm - 200 mS/cm TDS: 0 - 50000 mg/L as NaCl Salinity: 0 - 42 g/kg or Resist.: 2.5 Ωcm - 49 MΩcm	Cond.: 0.01 µS/cm - 200 mS/cm TDS: 0 - 50000 mg/L as NaCl Salinity: 0 - 42 g/kg or Resist.: 2.5 Ωcm - 49 MΩcm
Accuracy	±0.1 from 0 - 8 mg/L ±0.2 for greater than 8 mg/L	±0.1 from 0 - 8 mg/L ±0.1 for greater than 10 mg/L	±0.05 from 0 - 10 mg/L ±0.1 for greater than 10 mg/L	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit
Temperature range	0 - 50 °C	0 - 50 °C	0 - 50 °C	-10 - 110 °C	-10 - 110 °C
Dimensions (D x L)	15 mm x 200 mm	45 mm x 250 mm	15.875 mm x 200 mm	14 mm x 200 mm	45 mm x 250 mm
Sensor type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite, k = 0.40 cm^{-1}	4-pole graphite, k = 0.40 cm^{-1}
Material	Sensor Body: Polycarbonate / Abs	Sensor Body: Polycarbonate / Abs with Stainless Steel	Sensor Body: Polycarbonate / Abs	Sensor Body: Noryl	Sensor Body: Noryl with Stainless Steel
Article number	**LDO10101**	**LDO10105**	**LBOD10101**	**CDC40101**	**CDC40105**







Specifications	pH Ultra Refillable Combination	pH Gel-filled Combination	pH Gel-filled Combination	pH Refillable Combination	pH Gel-filled Combination
Special feature	Fast response time	Wastewater and difficult samples	General purpose. Clean water samples.		Low maintenance
Electrode type	Laboratory	Laboratory	Laboratory	Laboratory	Rugged Outdoor
Measuring range	0 - 14 pH	2 - 14 pH	0 - 14 pH	0 - 14 pH	2 - 14 pH
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature range	0 - 80 °C	0 - 50 °C	0 - 80 °C	0 - 80 °C	0 - 50 °C
Dimensions (D x L)	12 mm x 200 mm	12 mm x 200 mm	12 mm x 200 mm	12 mm x 200 mm	45 mm x 250 mm
Sensor type	Glass	Glass	Glass	Glass	Glass
Reference	Ag/AgCl (double junction)	Ag/AgCl (double junction)	Ag/AgCl (double junction)	Ag/AgCl (double junction)	Ag/AgCl (double junction)
Electrode junction	Open	Open	Ceramic pin	Ceramic pin (x2)	Open
Material	Sensor Body: Zeonor	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor	Sensor Body: Zeonor with Stainless Steel
Filling solution	2965026	Non-refillable solid gel	Non-refillable gel	2841700	Non-refillable solid gel
Article number	**PHC28101**	**PHC10101**	**PHC20101**	**PHC30101**	**PHC10105**

HQD INTELLICAL Probes







Specifications	ORP/Redox Combination Gel-filled	ORP/Redox Combination Refillable	ORP/Redox Combination Gel-filled	Ammonia Combination ISE	Ammonium Combination ISE
Special feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.	Easy-to-replace membrane modules.	Dry storage & fast response time. No replacement membranes.
Electrode type	Laboratory	Laboratory	Rugged Outdoor	Laboratory Combination ISE	Laboratory Combination ISE
Measuring range	± 1200 mV	± 1200 mV	± 1200 mV	0.01 mg/L ($5x10^{7}$ M) - 14,000 mg/L (1 M) NH_3-N	0.018 mg/L (10^{-6} M) - 9,000 mg/L (0.5 M) NH_4^+-N
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature range	0 - 80 °C	0 - 80 °C	0 - 80 °C	0 - 50 °C	0 - 50 °C
Dimensions (D x L)	12 mm x 200 mm	12 mm x 200 mm	45 mm x 250 mm	12 mm x 220 mm	12 mm x 220 mm
Sensor type	Platinum disc	Platinum disc	Platinum disc	Gas sensing: glass w/ replaceable NH_3 sensitive membrane	Solid-state PVC membrane
Reference	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Electrode junction	Open	Ceramic pin	Open	Porous Teflon Annular Ring	Porous Teflon Annular Ring
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor with Stainless Steel	Sensor Body: Epoxy	Sensor Body: Epoxy
Filling solution	Non-refillable gel	2841700	Non-refillable gel	4447226	Non-refillable Dritek gel
ISA required				4447169	2980699
Article number	**MTC10101**	**MTC30101**	**MTC10105**	**ISENH318101**	**ISENH418101**






Specifications	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE	Sodium Combination ISE
Special feature	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	Fast response time
Electrode type	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE	Laboratory Combination ISE
Measuring range	0.1 mg/L ($3x10^{-6}$ M) - 35,500 mg/L (1 M) Cl^-	0.01 mg/L ($5x10^{-7}$ M) - 19,000 mg/L (1 M) F^-	0.1 mg/L ($7x10^{-6}$ M) - 14,000 mg/L (1 M) NO_3-N	0.023 mg/L ($1x10^{-6}$ M) - 23,000 mg/L (1 M) Na^+
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature range	5 - 50 °C	5 - 50 °C	0 - 50 °C	0 - 50 °C
Dimensions (D x L)	12 mm x 220 mm	12 mm x 220 mm	12 mm x 220 mm	12 mm x 220 mm
Sensor type	Solid-state crystal membrane	Solid-state crystal membrane	Solid-state PVC membrane	Glass
Reference	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor
Filling solution	Non-refillable Dritek gel	Non-refillable Dritek gel	Non-refillable Dritek gel	2965126
ISA required	2318069	258999	2984799	4451569
Article number	**ISECL18101**	**ISEF12101**	**ISEN0318101**	**ISENA38101**

HQD Meter & Probe Accessories

Meter Stand



Article number	Description
4754900	Perfect for use in the laboratory or other applications where hands-free meter operation is desired. Black molded plastic is durable and easy to clean.

Universal Probe Stand for Standard Electrode Sizes



Article number	Description
8508850	Also supports HACH LANGE INTELLICAL and SENSION+ probes.

Protective Glove



Article number	Description
5828700	Provides added impact protection that field use requires. Wrist and neck straps keep the meter secure. Two probe holders (not included in kit) can slide onto glove.

HQD Field Meter Protective Caps



Article number	Description
9345200	Further protect your HQD meter from harsh (corrosive) field environments. For use with HQD Meter Protective Glove kit (5828700).

Probe Holder (Standard INTELLICAL Probes Only)



Article number	Description
5829400	For use with the Protective Glove. Simply wrap 1- or 3-meter cables around the holder and slide probe into protective sheath. Protective Glove can hold one or two Probe Holders.

Field Kit



Article number	Description
5825800	Includes protective glove and (5) 120 mL sample cups. Carry your HQD system anywhere. Custom inserts organise and securely position your meter and probes. NOTE: probes and meter not included.

Rugged Field Case for Two Probes with 5 m Cables



Article number	Description
8505500	Includes: Empty case and insert for meter and probe storage; (4) Containers for sample collection; 500 mL Wash Bottle.

Rugged Field Case for Three Probes with 5 m Cables



Article number	Description
8505501	Includes same accessories as case 8505500.

HQD Meter & Probe Accessories

Colour Coded Probe Clips



Article number	Description
5818400	Clip a colour-coded band to each end of your probe cable for identification. Ten clips of five different colors per package. NOTE: One package of clips included with each probe.

Probe Cable Depth Markers



Article number	Description
5828610	Taking readings at specific depths with rugged probes is a snap with these Depth Markers. Visually identify the depth of your probe by attaching Depth Marker securely on cable at points to meet your needs. Five Depth Markers per package. NOTE: For use with rugged probes only.

Replacement Stirrer Assembly for INTELLICAL LBOD Probe



Article number
5850800

Replacement Shroud Kit for Rugged Probes



Article number	Description
5825900	Includes protective bell and locking ring. The rugged shroud absorbs the impact from rough wear and tear. NOTE: probe not included.

Replacement LDO Sensor Cap



Article number	Description
5811200	Includes i-button and sensor cap.

Replacement LBOD Sensor Cap



Article number
5838000

Replacement Membranes for INTELLICAL ISENH3181 Ammonia ISE



Article number	Description
5812711	Pack of 3 replacement membrane modules designed for the INTELLICAL ISENH3181 Ammonia ISE.

HQD Meter USB and AC Power Adapter Kit



Article number	Description
5834100	Provides A/C power in the lab. The USB adapter can be used to transfer data from the meter to a PC, memory stick, or printer. Included with HQ40D meter systems.

SENSION+ Portable Meters



SENSION+ Portable instruments offer real one-hand operation with ergonomic and lightweight design and IP67 protection. Screw-on calibration tubes simplify on-site calibration and minimize buffer consumption.

Parameter	PH1 BASIC PORTABLE pH METER	MM110 PORTABLE pH/ORP MULTI-SENSOR METER[1]	EC5 PORTABLE CONDUCTIVITY METER	DO6 PORTABLE DISSOLVED OXYGEN METER	MM150 PORTABLE MULTI-METER[2]
Temperature	■	■	■	■	■
pH	■	■			■
Conductivity			■		■
Salinity			■		■
TDS			■		■
Dissolved Oxygen				■	
ORP/Redox	■	■			■

Specifications	PH1 BASIC PORTABLE pH METER	MM110 PORTABLE pH/ORP MULTI-SENSOR METER[1]	EC5 PORTABLE CONDUCTIVITY METER	DO6 PORTABLE DISSOLVED OXYGEN METER	MM150 PORTABLE MULTI-METER[2]
Casing IP Rating	IP67	IP67	IP67	IP67	IP67
Internal result storage capacity	—	—	—	—	—
Resolution	0.01 pH 0.1 mV (±199.9 mV range)	0.01 pH 1 mV	EC: 0.01 µS/cm - 1 mS/cm TDS: 1mg/L - 1g/L depending on range Salinity: 0.1 mg/L - 0.1 g/L depending on range	0.01 mg/L	pH: 0.01 ORP: 1 mV EC: 0.01 µS/cm - 1 mS/cm depending on range 1 mg/L - 1 g/L depending on range
Inputs	MP5	MP8	MP5	MP5	MP8
Output	—	—	—	—	—
Interface languages	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed
Warranty	2 years	2 years	2 years	2 years	2 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE
Measurement method	Auto stabilisation, manual	Auto stabilisation, manual	Auto stabilisation, manual	Auto stabilisation, manual	Auto stabilisation, manual
PC data transfer software	—	—	—	—	—
Backlight	■	■	■	■	■
Battery requirements	3, AA	3, AA	3, AA	3, AA	3, AA
Article number	**LPV2500.98.0002**	**LPV2600.98.0002**	**LPV3500.98.0002**	**LPV4500.98.0002**	**LPV4000.98.0002**

[1]pH and ORP/Redox simultaneously with one multi electrode. [2]Parameter measured depends on electrode selected.

Call us for information on complete field kit solutions!

SENSION+ Portable Data Logger Meters



HACH LANGE's SENSION+ Data Logger, an all-in-one system - now making testing and data management fast and simple. Interval measurements, 500 data point memory and wireless data transfer to your PC. Data management as fast and simple as it can be.

Parameter	pH1 DL PORTABLE DATA LOGGER pH METER	MM110 DL PORTABLE DATA LOGGER MULTI-METER[1]	EC5 DL PORTABLE DATA LOGGER CONDUCTIVITY METER	DO6 DL PORTABLE DATA LOGGER DISSOLVED OXYGEN METER	MM150 DL PORTABLE DATA LOGGER MULTI-METER[2]
Temperature	■	■	■	■	■
pH	■	■			■
Conductivity			■		■
Salinity			■		■
TDS			■		■
Dissolved Oxygen				■	
ORP/Redox	■	■			■

Specifications	pH1 DL PORTABLE DATA LOGGER pH METER	MM110 DL PORTABLE DATA LOGGER MULTI-METER[1]	EC5 DL PORTABLE DATA LOGGER CONDUCTIVITY METER	DO6 DL PORTABLE DATA LOGGER DISSOLVED OXYGEN METER	MM150 DL PORTABLE DATA LOGGER MULTI-METER[2]
Casing IP Rating	IP67	IP67	IP67	IP67	IP67
Internal result storage capacity	500 results	500 results	500 results	500 results	500 results
Resolution	0.01 pH 0.1 mV (±199.9 mV range)	0.01 pH 1 mV	EC: 0.01 µS/cm - 1 mS/cm TDS: 1mg/L - 1g/L depending on range Salinity: 0.1 mg/L - 0.1 g/L depending on range	0.01 mg/L	pH: 0.01 ORP: 1 mV EC: 0.01 µS/cm - 1 mS/cm depending on range 1 mg/L - 1 g/L depending on range
Inputs	MP-5	MP-8	MP-5	MP-5	MP-8
Output	Wireless to USB	Wireless to USB	Wireless to USB	Wireless to USB	Wireless to USB
Interface languages	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed	Icon based, no language needed
Warranty	2 years	2 years	2 years	2 years	2 years
Compliance	CE; RTTE directive see NB opinion statement; FCC approval	CE; RTTE directive see NB opinion statement; FCC approval	CE; RTTE directive see NB opinion statement; FCC approval	CE; RTTE directive see NB opinion statement; FCC approval	CE; RTTE directive see NB opinion statement; FCC approval
Measurement method	Interval, auto stabilisation, manual	Interval, auto stabilisation, manual	Interval, auto stabilisation, manual	Interval, auto stabilisation, manual	Interval, auto stabilisation, manual
PC data transfer software	Yes	Yes	Yes	Yes	Yes
Backlight	■	■	■	■	■
Battery requirements	3, AA	3, AA	3, AA	3, AA	3, AA
Article number	**LPV2500DL.98.02**	**LPV2600DL.98.02**	**LPV3500DL.98.02**	**LPV4500DL.98.02**	**LPV4000DL.98.02**

[1]pH and ORP/Redox simultaneously with one multi electrode. [2]Parameter measured depends on electrode selected.

Call us for information on complete field kit solutions!

HACH LANGE

SENSION+ Benchtop Meters



SENSION+ benchtop meters are developed as complete work stations, delivered with integrated magnetic stirrer, probe holder and consumables.

Parameter	PH3 BASIC BENCHTOP pH METER	PH31 GLP BENCHTOP pH METER	EC7 BENCHTOP CONDUCTIVITY METER	EC71 GLP BENCHTOP CONDUCTIVITY METER	MM340 BENCHTOP MULTI-PARAMETER METER	MM374 BENCHTOP MULTI-PARAMETER METER
Temperature	■	■	■	■	■	■
pH	■	■			■	■
mV	■	■			■	■
Conductivity			■	■		■
Salinity			■	■		■
TDS				■		■
ORP/Redox	■	■			■	■
Ammonia					■	■
Nitrate					■	■
Fluoride					■	■
Sodium					■	■
Chloride					■	■
Ammonium					■	■

Specifications	PH3 BASIC BENCHTOP pH METER	PH31 GLP BENCHTOP pH METER	EC7 BENCHTOP CONDUCTIVITY METER	EC71 GLP BENCHTOP CONDUCTIVITY METER	MM340 BENCHTOP MULTI-PARAMETER METER	MM374 BENCHTOP MULTI-PARAMETER METER
Internal result storage capacity	—	330	—	400	330	330
Resolution	pH: 0.01 ORP: 1 mV	pH: 0.001 ORP: 0.1 mV	EC: 0.01 µS/cm - 1 mS/cm depending on range Salinity: Dependent on range	EC: 0.01 µS/cm - 1 mS/cm depending on range TDS: 1 mg/L - 1 g/L Salinity: Dependent on range	pH: 0.001 ORP 0.1 mV	pH: 0.001 pH ORP: 0.1 mV EC: 0.01 µS/cm - 1 mS/cm depending on range TDS: 1 mg/L - 1 g/L Salinity: Dependent on range
Inputs	BNC, ref, Pt1000	BNC, ref, Pt1000	E.C. cell, Pt1000	E.C. cell, Pt1000	2 BNC, 2 ref, Pt1000	2 BNC, 2 ref, 1 E.C.
Outputs		RS232* (two-way), USB		RS-232* (two-way), USB	RS-232* (two-way), USB	RS-232* (two-way), USB
Interface languages	6**	6**	6**	6**	6**	6**
Warranty	2 years	2 years	2 years	2 years	2 years	2 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE
GLP features	—	■	—	■	■	■
PC data transfer software	■	■	■	■	■	■
Backlight	■	■	■	■	■	■
AC and USB operation	■	■	■	■	■	■
Article number	**LPV2000.98.0002**	**LPV2100.98.0002**	**LPV3010.98.0002**	**LPV3110.98.0002**	**LPV2200.98.0002**	**LPV4110.98.0002**

*USB compatibility with optional adapter.storage device. **English, German, Spanish, French, Italian, and Portuguese

Call us for information on complete laboratory kits!

SENSION+ Probes for Portable Meters







Specifications	pH Combination Gel-filled	pH Combination Solid Gel Wastewater	pH Combination Low Conductivity High Temperature	ORP/Redox Combination Gel-filled	Dissolved Oxygen Polarographic
Special feature		With Working Protector. Solid gel for high solids content.	With Working Protector. For low ionic strength and/or high temperature.		
Measuring range	0 - 14 pH	2 - 14 pH	0 - 14 pH	± 2000 mV	0.03 mg/L to saturation
Accuracy	0.02 pH with pH1 Meter	0.02 pH with pH1 Meter	0.02 pH with pH1 Meter	1 mV with pH1 Meter	±0.5 mg/L
Temperature range	0 - 80 °C	0 - 80 °C	0 - 100 °C	0 - 80 °C	0 - 50 °C
Thermistor	Pt1000	Pt1000	Pt1000	-	Integrated 30kohm NTC
Dimensions (D x L)	12 mm x 85 mm	12 mm x 85 mm	12 mm x 85 mm	12 mm x 85 mm	12 mm x 120 mm
Sensor type	Glass	Glass	Glass	Platinum annular ring	Replaceable PTFE membrane; Pt cathode; Ag anode
Electrode junction	Ceramic pin	Open	Porous annular PTFE	Ceramic pin	
Material	Sensor Body: Polycarbonate	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Polycarbonate	Probe body: ABS & Delrin (nylon)
Filling solution	Non-refillable gel	Non-refillable solid polymer	Non-refillable gel	Non-refillable gel	2759123
Article number	**LZW5050T.97.002**	**LZW5051T.97.002**	**LZW5052T.97.002**	**LZW5055.97.0002**	**LZW5130.97.0002**







Specifications	Conductivity	Conductivity	Multi-Combination**	Multi-Combination*	Multi-Combination**
Special feature		For harsh samples	pH, Conductivity, ORP	pH, ORP	pH, Conductivity
Measuring range	0.2 µS/cm - 200 mS/cm	5 µS/cm - 50 mS/cm	pH: 0 - 14 pH Conductivity: 20 µS/cm - 200 mS/cm ORP:± 2000 mV	pH: 0 - 14 pH ORP: ± 2000 mV	pH: 0 - 14 pH Conductivity: 20 µS/cm - 200 mS/cm
Accuracy	0.50% with EC5 Meter	0.50% with EC5 Meter	0.02 pH with MM150 Meter 1 mV with MM150 Meter 0.50% EC with MM150 Meter	0.02 pH with MM110 Meter 1mV with MM110 Meter	0.02 pH with MM150 Meter 0.50% EC with MM150 Meter
Temperature range	0 - 80 °C	0 - 80 °C	0 - 80 °C	0 - 80 °C	0 - 80 °C
Thermistor	Pt1000	Pt1000	Pt1000	Pt1000	Pt1000
Dimensions (D x L)	12 mm x 85 mm	12 mm x 85 mm	12 mm x 85 mm	12 mm x 85 mm	12 mm x 85 mm
Sensor type	3-pole Platinum, k = 1.0 cm^{-1}	2-pole Titanium, k = 0.3 cm^{-1}	pH: Glass ORP: Platinum Conductivity: Platinum	pH: Glass ORP: Platinum	pH: Glass Conductivity: Platinum
Electrode junction			Ceramic	Ceramic	Ceramic
Material	Sensor Body: Outside: Polycarbonate; Inside: Glass	Sensor Body: Titanium	Sensor Body: Polycarbonate	Sensor Body: Polycarbonate	Sensor Body: Polycarbonate
Filling solution			Non-refillable gel	Non-refillable gel	Non-refillable gel
Article number	**LZW5060.97.0002**	**LZW5062.97.0002**	**LZW5048.97.0002**	**LZW5045.97.0002**	**LZW5059.97.0002**

*Only for use on MM110 Meter. **Only for use with MM150 Meter.

HACH LANGE

SENSION+ Probes for Benchtop Meters






Specifications	pH Combination Gel-filled	pH Combination Refillable	pH Combination Gel-filled Wastewater	pH Combination Refillable
Special feature		TRIS compatible	Solid gel for high solids content	Clog-free Sleeve Junction for low ionic strength.
Measuring range	0 - 14 pH	0 - 14 pH	2 - 14 pH	0 - 14 pH
Accuracy	0.02 pH with pH3 Meter 0.002 pH with pH31 Meter 0.002 pH with MM340 Meter 0.002 pH with MM374 Meter	0.02 pH with pH3 Meter 0.002 pH with pH31 Meter 0.002 pH with MM340 Meter 0.002 pH with MM374 Meter	0.02 pH with pH3 Meter 0.002 pH with pH31 Meter 0.002 pH with MM340 Meter 0.002 pH with MM374 Meter	0.02 pH with pH3 Meter 0.002 pH with pH31 Meter 0.002 pH with MM340 Meter 0.002 pH with MM374 Meter
Temperature range	0 - 80 °C	-10 - 100 °C	0 - 80 °C	0 - 60 °C
Thermistor	Pt1000	Pt1000	Pt1000	Pt1000
Dimensions (D x L)	12 mm x 130 mm	12 mm x 130 mm	12 mm x 130 mm	12 mm x 130 mm
Sensor type	Glass	Glass	Glass	Glass
Electrode junction	Ceramic pin	2 x Ceramic pin	Open	Open with sleeve
Material	Sensor Body: Polycarbonate	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling solution	Non-refillable gel	LZW9500.99	Non-refillable solid polymer	LZW9500.99
Prod. No.	**LZW5010T.97.002**	**LZW5014T.97.002**	**LZW5011T.97.002**	**LZW5021T.97.002**





Specifications	Conductivity	ORP Gel-filled Combination	ORP Refillable Combination
Special feature			
Measuring range	0.2 µS/cm - 200 mS/cm	± 2000 mV	± 2000 mV
Accuracy	0.50% EC & TDS	1mV with pH3 Meter 0.2mV with pH31 Meter 0.2mV with MM340 Meter 0.2mV with MM374 Meter	1mV with pH3 Meter 0.2mV with pH31 Meter 0.2mV with MM340 Meter 0.2mV with MM374 Meter
Temperature range	0 - 80 °C	0 - 80 °C	0 - 80 °C
Thermistor	Pt1000	—	—
Dimensions (D x L)	12 mm x 130 mm	12 mm x 130 mm	12 mm x 130 mm
Sensor type	3-pole Platinum, k = 0.7 cm^{-1}	Platinum	Platinum
Electrode junction	—	Ceramic pin	Ceramic pin
Material	Sensor Body: Outside: Polycarbonate; Inside: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling solution	—	Non-refillable gel	LZW9500.99
Prod. No.	**LZW5070.97.0002**	**LZW5056.97.0002**	**LZW5057.97.0002**

SENSION+ ISE Probes






Specifications	Sodium ISE	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE
Special feature	Indicator only; requires a reference electrode.	Combination electrode Maintenance free: No electrolyte or spare membranes needed	Combination electrode Maintenance free: No electrolyte or spare membranes needed	Combination electrode Maintenance free: No electrolyte or spare membranes needed
Measuring range	0.05 - 23,000 mg/L Na	0.1 mg/L - 35,500 mg/L Cl	0.01 mg/L - 19,000 mg/L F	0.1 mg/L - 14,000 mg/L NO_3
Accuracy	±0.02 mV or 0.05%, whichever is greater (application dependent)	±0.02 mV or 0.05%, whichever is greater (application dependent)	±0.02 mV or 0.05%, whichever is greater (application dependent)	±0.02 mV or 0.05%, whichever is greater (application dependent)
Temperature range	0 - 60 °C	5 - 50 °C	5 - 50 °C	0 - 50 °C
Dimensions (D x L)	12 mm x 120 mm	12 mm x 120 mm	12 mm x 120 mm	12 mm x 120 mm
Sensor type	Sodium Selective Glass Membrane	Solid-state crystal membrane	Solid-state crystal membrane	Solid-state PVC membrane
Electrode junction	—	Porous Teflon Annular Ring	Porous Teflon Annular Ring	Porous Teflon Annular Ring
Material	Sensor Body: Glass	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Epoxy
Filling solution	—	Non-refillable Dritek gel	Non-refillable Dritek gel	Non-refillable Dritek gel
ISA required	4451569	2318069	258999	2984799
Prod. No.	**LZW9650.97.0002**	**LZW9652C.97.002**	**LZW9655C.97.002**	**LZW9662C.97.002**





Specifications	Ammonium Combination ISE	Ammonia Combination ISE	Reference Electrode
Special feature	Combination electrode. Maintenance free: No electrolyte or spare membranes needed	Gas Sensing Electrode	Double junction reference electrode for ISEs, large ceramic diaphragm
Measuring range	0.018 mg/L - 9,000 mg/L NH_4	0.06 mg/L - 17,000 mg/L NH_3	
Accuracy	±0.02 mV or 0.05%, whichever is greater (application dependent)	±0.02 mV or 0.05%, whichever is greater (application dependent)	
Temperature range	5 - 50 °C	0 - 50 °C	0 - 60 °C
Dimensions (D x L)	12 mm x 120 mm	12 mm x 149 mm	12 mm x 120 mm
Sensor type	Solid-state PVC membrane	Gas sensing: glass with replaceable NH_3 sensitive membrane	
Electrode junction	Porous Teflon Annular Ring	Porous Teflon Annular Ring	Ceramic
Material	Sensor Body: Epoxy	Sensor Body: ABS	Sensor Body: Glass
Filling solution	Non-refillable Dritek gel	4447226	LZW9901.00
ISA required	2980699	4447169	
Prod. No.	**LZW9663C.97.002**	**5192700**	**LZW5044.97.0002**

SENSION+ Accessories



LZW2598.99.0002

Article number	Description
Accessories for SENSION+ Portable Instruments & Electrodes	
LZW9137.98	3 x 10 mL printed tubes for portable pH calibration
LZW9161.99	Electrode Storage Protector, Polypropylene
LZW9162.99	Electrode Measurement Protector, Polypropylene
LZW5123.99	Protector-calibration flask for DO probe LZW5130
5196800	Service Kit for 5130 DO Probe (contains 2 Membrane Modules and DO Filling Solution)
LZW2598.99.0002	PortCom Kit for SENSION+ Data Logger (USB dongle and CD-ROM with PortCom software)



5192711

Accessories for SENSION+ Benchtop Instruments	
LZW8997.99	LabCom Easy PC Software for SENSION+ GLP instruments
LZW8999.99	LabCom PC Software for SENSION+ GLP instruments
LZW9008.99	Power Supply for SENSION+ Benchtop instruments, 230-115VAC
LZW9110.98	3x50 mL printed flasks for pH calibration, Benchtop instruments
LZW9111.99	3x50 mL printed flasks for benchtop conductivity calibration
LZW9118.99	Pyrex glass chamber, continuous flow measurements
LZW9321.99	Three-probe holder for SENSION+ Benchtop instruments
LZW9325.99	Radiometer probe holder for SENSION+ Benchtop instruments
LZW9325.99.T014	Radiometer probe holder kit for SENSION+ with X31T014 adapter
LZW9325.99.T031	Radiometer probe holder kit for SENSION+ with X31T031 adapter
LZW9319.99	Second Magnetic stirrer with probe holder for SENSION+ Multi Meters
5192711	Ammonia Membrane Replacement Kit, 5 pieces



LZW9325.99

Standards	
LZW9463.99	pH buffer solution 4.01, 250 mL
LZW9464.97	pH buffer solution 7.00, 250 mL
LZW9471.99	pH buffer solution 10.00, 250 mL
LZW9700.99	Conductivity Standard 147 µS/cm, 250 mL
LZW9710.99	Conductivity Standard 1413 µS/cm, 250 mL
LZW9720.99	Conductivity Standard 12.88 mS/cm, 250 mL
LZW9500.99	Electrolytic solution, KCl 3M, 250 mL (GHS07)

POCKET PRO Testers



Take the guesswork out of your measurements. The large LCD display, intuitive user interface, and standard AAA batteries make POCKET PRO the easiest to use tester for your application. POCKET PRO's superior probe and calibration diagnostics deliver confidence in your results.

NEW

Specifications	POCKET PRO pH	POCKET PRO ORP	POCKET PRO TDS $_{LR}$	POCKET PRO TDS $_{HR}$
Parameter	pH, Temp	ORP, Temp	TDS, Temp	TDS, Temp
Operating temperature range	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C
Range	0.0 - 14.0 pH	-999 to +999 mV	0 - 1999 ppm	0 - 10.00 ppt
Accuracy	0.1 pH	± 2 mV	1% FS	2% FS
Resolution	0.1 pH	1 mV	1 ppm	0.01 ppt
TDS factor			adjustable; 0.71 default	adjustable; 0.71 default
Battery requirements	4, AAA	4, AAA	4, AAA	4, AAA
Casing IP rating	IP67	IP67	IP67	IP67
Backlight	No	No	No	No
Article number	**9531000**	**9531100**	**9531200**	**9531300**

Specifications	POCKET PRO Conductivity $_{LR}$	POCKET PRO Conductivity $_{HR}$	POCKET PRO Salt	POCKET PRO Temperature
Parameter	Conductivity, Temp	Conductivity, Temp	Salinity, Temp	Temperature
Operating temperature range	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C
Range	0 - 1990 µS/cm	0.0 - 19.99 mS/cm	0 - 10.00 ppt	-15 - 170°C
Accuracy	1% FS	2% FS	1% FS	1°C
Resolution	1 µS/cm	0.01 mS/cm	0.01 ppt	0.1°C
TDS factor				
Battery requirements	4, AAA	4, AAA	4, AAA	4, AAA
IP rating	IP67	IP67	IP67	IP67
Backlight	No	No	No	No
Article number	**9531400**	**9531500**	**9531600**	**9531700** 9531701 is replacement sensor for POCKET PRO Temp

POCKET PRO+ Testers



The POCKET PRO+ series offers all the benefits of the POCKET PRO standard testers, plus convenient backlight and replaceable sensors. Have confidence in your results with superior probe and calibration diagnostics.

NEW

Specifications	POCKET PRO+ pH	POCKET PRO+ ORP	POCKET PRO+ Multi 1	POCKET PRO+ Multi 2
Parameter	pH, Temp	ORP, Temp	Conductivity, TDS, Salinity, Temp	pH, Conductivity, TDS, Salinity, Temp
Operating temperature range	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C
Range	0.00 - 14.00 pH	-999 to +999 mV	Cond: Auto-ranging (0.0 - 199.9 µS/cm; 200 - 1999 µS/cm; 2.00 - 19.99 mS/cm) TDS: Auto-ranging (0.0 - 99.9 ppm; 100 - 999 ppm; 1.00 - 10.00 ppt) Sal: Auto-ranging (0.00 - 10.00 ppt; 0.00 - 1.00%) Temp: 0.0 - 50°C	pH: 0.00 - 14.00 Cond: Auto-ranging (0.0 - 199.9 µS/cm; 200 - 1999 µS/cm) TDS: Auto-ranging (0.0 - 99.9 ppm; 100 - 999 ppm; 1.00 - 10.00 ppt) Sal: Auto-ranging (0.00 - 10.00 ppt; 0.00 - 1.00%) Temp: 0.0 - 50°C
Accuracy	± 0.01 pH	2 mV	Cond: ± 1% TDS: ± 1% Sal: ± 1% Temp: ± 0.5°C	pH: ±0.01 pH Cond: ±1% TDS: ±1% Sal: ±1% Temp: ±0.5 °C
Resolution	0.01 pH	1 mV	Cond: 0.1 µS/cm from 0.0 - 199.9 µS/cm; 1 µS/cm from 200 - 1999 µS/cm; 0.01 mS/cm from 2.00 - 19.99 mS/cm TDS: 0.1 ppm from 0.0 - 99.9 ppm; 1 ppm from 100 - 999 ppm; 0.01 ppt from 0.00 - 10.00 ppt Sal: 0.01 ppt from 0.00 - 10.00 ppt; 0.01% from 0.00 - 1% Temp: 0.1°C	pH: 0.01 pH Cond: 0.1 µS/cm from 0.0 - 199.9 µS/cm; 1 µS/cm from 200 - 1999 µS/cm; 0.01 mS/cm from 2.00 - 19.99 mS/cm TDS: 0.1 ppm from 0.0 - 99.9 ppm; 1 ppm from 100 - 999 ppm; 0.01 ppt from 0.00 - 10.00 ppt Sal: 0.01 ppt from 0.00 - 10.00 ppt; 0.01% from 0.00 - 1% Temp: 0.1°C
TDS factor			adjustable; 0.71 default	adjustable; 0.71 default
Battery requirements	4, AAA	4, AAA	4, AAA	4, AAA
Casing IP rating	IP67	IP67	IP67	IP67
Backlight	Yes	Yes	Yes	Yes
Article number	**9532000** 9532001 is replacement sensor for POCKET PRO+ pH Tester	**9532100** 9532101 is replacement sensor for POCKET PRO+ ORP Tester	**9532700** 9532701 is replacement sensor for POCKET PRO+ Multi 1 Tester	**9532800** 9532801 is replacement sensor for POCKET PRO+ Multi 2 Tester

pH Buffer and Conductivity Standard Solutions

pH Standard Solutions

Description	Article number
Certified pH standard solutions. IUPAC range. Supplied in airtight sealed can, guaranteed shelf life, with DKD certificate, and traceable to standard reference materials with given tolerances.	
pH 1.679 ±0.010 at 25°C, 500 mL	S11M001
pH 4.005 ±0.010 at 25°C, 500 mL	S11M002
pH 6.865 ±0.010 at 25°C, 500 mL	S11M003
pH 7.000 ±0.010 at 25°C, 500 mL	S11M004
pH 7.413 ±0.010 at 25°C, 500 mL	S11M005
pH 9.180 ±0.010 at 25°C, 500 mL	S11M006
pH 10.012 ±0.010 at 25°C, 500 mL	S11M007
pH 12.45 ±0.05 at 25°C, 500 mL	S11M008
Quality buffer solutions. Ready-to-use buffer solutions in bottles, with and without colour coding	
pH 4.01 Red, 500 mL	2283449
pH 7.00 Yellow, 500 mL	2283549
pH 10.01 Blue, 500 mL	2283649
pH 4.01 No colour code, 500 mL	1222349
pH 7.00 No colour code, 500 mL	1222249
pH 10.01 No colour code, 500 mL	1222149
pH 1.09 Technical buffer solution (DIN 19267)	S11M009
pH 4.65 Technical buffer solution (DIN 19267)	S11M010
pH 9.23 Technical buffer solution (DIN 19267)	S11M011
SINGLET buffer solutions. Buffer solutions in individually sealed airtight pouches, colour coded, 25 mL/pouch	
SINGLET Single use pH buffer solution, pH 4.01, 20 pcs	2770020
SINGLET Single use pH buffer solution, pH 7.00, 20 pcs	2770120
SINGLET Single use pH buffer solution, pH 10.01, 20 pcs	2770220

Conductivity Standard Solutions

Description	Article number
SINGLET buffer solutions. Buffer solutions in individually sealed airtight pouches, colour coded, 25 mL/pouch	
SINGLET Single use conductivity standard, 147 µS/cm, 20 pcs	2771320
SINGLET Single use conductivity standard, 1413 µS/cm, 20 pcs	2771420
SINGLET Single use conductivity standard, 12.88 mS/cm, 20 pcs	2771520

Conductivity Standard Solutions

Description		Volume / Package size	Article number
Certified conductivity standard solutions. Supplied in airtight sealed can, guaranteed shelf life, with certificate and traceable to standard reference materials			
KCl 1 D	111.3 mS/cm ±0.5%	500 mL	S51M001
KCl 0.1 D	12.85 mS/cm ±0.35%	500 mL	S51M002
KCl 0.01 D	1408 µS/cm ±0.5%	500 mL	S51M003
NaCl 0.05%	1015 µS/cm ±0.5%	500 mL	S51M004
NaCl solutions			
491 mg/L as NaCl	1000 ±10 µS/cm	100 mL	1440042
85.47 mg/L as NaCl	180 ±10 µS/cm	100 mL	2307542
1 000 mg/L as NaCl	1990 ±20 µS/cm	100 mL	210542
10 246 mg/L as NaCl	18000 ±50 µS/cm	100 mL	2307442
Molar KCl solutions			
KS 910 KCl 0.1 M	12.88 mS/cm	500 mL	C20C250
KS 920 KCl 0.01 M	1.413 mS/cm	500 mL	C20C270
KS930 KCl 0.001 M	146.9 µS/cm	500 mL	C20C280



HACH LANGE

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