Water Analysis Solutions

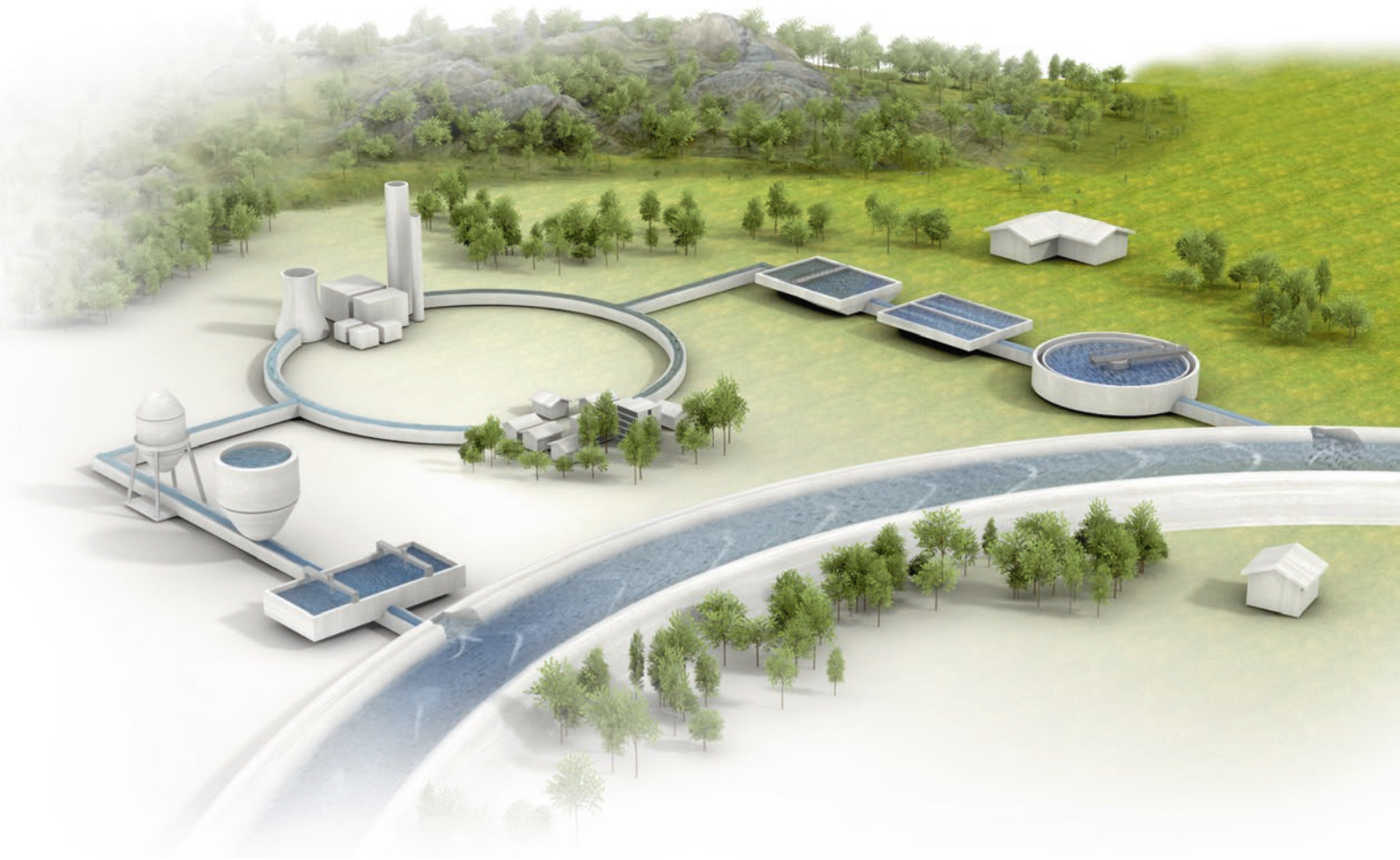
- **Instruments, Reagents, Services**
- **For easy, reliable and accurate analysis**
- **For drinking water, wastewater, industrial water cycles, quality control**
- **For laboratory and field use**

HACH®

Be Right™

Photometric and Electrochemical Instruments, Reagents & Services

With high quality products, consumables, accessories and comprehensive services, Hach® 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 provides all you need for your water analysis.

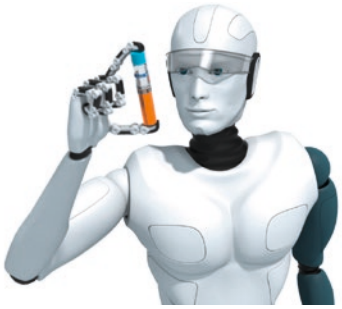
For every application

Hach water analysis is the result of decades of practical experience. We supply you with tailor-made solutions for reliable monitoring of municipal drinking water, wastewater, and industrial water cycles 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 for their water analysis; from sample preparation to quality control.

Content



Service

LCK Cuvette Test System

Hach 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 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. Truecal with each cuvette includes the calibration data for each individual batch, reducing variation in results. 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 LCK Cuvette Tests. Since 1978, we have collected used reagents for proper disposal. Thanks to the special reagent processing techniques applied in the Hach Environment Centre, more than 75 % of all returned test components are fed back into the production and material cycles. Hach is certified according to ISO14001.

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. This allows you to meet reporting standards and to perform proficiency testing with higher confidence.

Truecal

Truecal from Hach reduces variations in results caused by variances in chemistry raw materials. A barcode contains the calibration curve data specific to each lot of chemistry, and automatically updates the calibration curve. With LCK products using the Truecal feature, you will have one less thing to worry about during crucial proficiency testing or permit-limit compliance testing.

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 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.

RFID for traceability and rapid data updates

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 is it. The measurement starts instantly – with the correct calibration data leading to the right result. In addition, Certificates of Analysis (CoA) can be retrieved immediately from the RFID tag on the packaging.

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 DR3900/DR6000. The exchange of data works bidirectional, which means that you can do a matrix correction of your process probe straight from the laboratory.

Shop online:
uk.hach.com/products/chemistries/lck

LCK Cuvette Test: The Original

Our founders were driven by the desire to simplify complex analysis and eliminate human error. Their ideas led to the launch of the world's first ready-to-use reagent packs for photometric analysis in the early 1960s which had a substantial impact on water analysis. Today LCK Cuvette Tests are indispensable elements of both process control and compliance monitoring.

Your Benefits

- **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 & Dosicap Zip: cuvette caps containing an exactly pre-dispensed amount of freeze-dried reagent.
- **Approved:** Hach LCK 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.
- **Commited to sustainability:** We take back used reagents and recycle them in our inhouse Environment Centre.

Continuous Innovation

The innovative double cap made the complex parameter TOC (Total Organic Carbon) available to operators on wastewater treatment plants without the need for additional equipment.

The introduction of Dosicap Zip demonstrated that even an excellent solution can be improved further. The benefits are clear: easy and safe handling, less plastic material.

LCK Cuvette Tests corresponding with ISO standards are ideally suited for compliance monitoring

LCK Cuvette Tests

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. Each cuvette with Truecal includes the calibration data of the according batch. The 2D barcode also details the batch number and the expiry date of the reagents. The Certificate of Analysis (CoA) is directly available via RFID tag on the packaging.

Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LCK362	Acid capacity	0.5 - 8.0 mmol/L	Hach Method			25		■	■	■	-
LCK300	Alcohol	0.01 - 0.12 g/L	Alcohol Oxidase (Enzymatic)			24 (test includes zero solution)		■	■	■	-
LCK301	Aluminium	0.02 - 0.5 mg/L Al	Chromazurol S		LCA702	24 (test includes zero solution)		■	■	■	GHS02, GHS05, GHS07, GHS08
LCK302	Ammonium	47 - 130 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA705	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK303	Ammonium	2 - 47 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA703	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK304	Ammonium	0.015 - 2.0 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA700	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK305	Ammonium	1 - 12 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA704	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK502	Ammonium	100 - 1800 mg/L NH_4-N	Indophenol blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**		25		■	■	■	GHS05, GHS07, GHS09
LCK503	Ammonium	10 - 100 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA503	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK504	Ammonium	0.005 - 0.05 mg/L NH_4-N	Indophenol blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA505 (1:100)	20			■	■	GHS05, GHS07, GHS09
LCK505	Ammonium	0.5 - 5.0 mg/L NH_4-N	Indophenol Blue	ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, **ISO 23695**	LCA505	25	Yes	■	■	■	GHS05, GHS07, GHS09
LCK411	Anammox Activity	0 - 1000 mAbs	Photometric heme detection			25		■	■	■	-

DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

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

Bold: Test corresponds to ISO standard

-: product is not subject to classification; GHS hazard code descriptions: see page 13

LCK Cuvette Tests

Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LCK390	AOX	0.05 - 3.0 mg/L AOX	Digestion + Iron(III)-Thiocyanate	DIN EN ISO 9562	LCA390	24		■	■	■	GHS02, GHS03, GHS05, GHS06, GHS07, GHS08
LCK241	Bitter units	≥ 2 Bitter units	Analogous MEBAK-Method	MEBAK II		25				■	GHS02, GHS05, GHS07, GHS08, GHS09
LCK554	BOD_5	0.5 - 12 mg/L O_2	Dilution Method	DIN EN ISO 5815-1		20		■	■	■	GHS05, GHS07
LCK555	BOD_5	4 - 1650 mg/L O_2	Dilution Method	DIN EN ISO 5815-1	LCA555	39		■	■	■	GHS05, GHS07
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		■	■	■	GHS02, GHS05, GHS06, GHS07, GHS08, GHS09
LCK388	Carbonate/ carbon dioxide	55 - 550 mg/L CO_2	pH Indicator			25		■	■	■	-
LCK311	Chloride	1 - 70 mg/L Cl 70 - 1000 mg/L Cl	Iron(III)-Thiocyanate		LCA700, LCA703, LCA704, LCA705	24		■	■	■	GHS02, GHS05, GHS06, GHS08
LCK410	Chlorine, free	0.05 - 2.0 mg/L Chlorine free/ ClO_2	DPD	ISO 7393-1-2-1985, DIN 38408 G4-2	LCA310	24 (test includes zero solution)		■	■	■	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 GHS08
LCK213	Chromic acid	0.5 - 5.0 g/L CrO_3	Intrinsic Baths Colour			25		■	■	■	GHS05
LCK313	Chromium	0.03 - 1.0 mg/L Cr(VI)	Diphenylcarbazide	EN ISO 11083, DIN 38405-D24	LCA702	25		■	■	■	GHS05, GHS07, GHS08
LCS313	Chromium, trace	0.005 - 0.25 mg/L Cr(VI)	Diphenylcarbazide	EN ISO 11083, DIN 38405-D24	LCA702	25			■	■	GHS05, GHS07, GHS08
LCI400	COD	0 - 1000 mg/L O_2	Dichromate	**ISO 15705**	LCA720	24 tests, one blank		■	■	■	GHS05, GHS06, GHS08, GHS09
LCI500	COD	0 - 150 mg/L O_2	Dichromate	**ISO 15705**	LCA721	24 tests, one blank		■	■	■	GHS05, GHS06, GHS08, GHS09
LCK014	COD	1000 - 10000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA705	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK114	COD	150 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA703	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK314	COD	15 - 150 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA704	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK514	COD	100 - 2000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA708	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09

DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

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

Bold: Test corresponds to ISO standard

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Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LCK614	COD	50 - 300 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA709	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK714	COD	100 - 600 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	1218629	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK914	COD	5 - 60 g/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44		25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK1414	COD	5.0 - 60 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA700	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK214	COD, mercury free	0 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41	1218629	25		■	■	■	-
LCK1014	COD (for samples up to 4000 mg/L Chloride)	100 - 2000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA708	25	Yes	■	■	■	GHS05, GHS06, GHS08, GHS09
LCK1714	COD (for samples up to 20000 mg/L Chloride)	70 - 250 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA707	25		■	■	■	GHS05, GHS06, GHS08, GHS09
LCK1814	COD (for samples up to 20000 mg/L Chloride)	7 - 70 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA704	25		■	■	■	GHS05, GHS06, GHS08, GHS09
LCK1914	COD (for samples up to 20000 mg/L Chloride)	250 - 1000 mg/L O_2	Dichromate	ISO 6060-1989, DIN 38409-H41-H44	LCA720	25		■	■	■	GHS05, GHS06, GHS08, GHS09
LCK394	CODMn	0.5 - 10 mg/L O_2	Permanganate	ISO 8467	LCA394	25		■	■	■	-
LCK329	Copper	0.1 - 8.0 mg/L Cu	Bathocuproine Disulphonic Acid		LCA701	25		■	■	■	-
LCK529	Copper, trace	0.01 - 1.0 mg/L Cu	Bathocuproine Disulphonic Acid		LCA706	20			■	■	-
LCK229	Copper baths (acidic)	2 - 100 g/L Cu	Intrinsic Bath Colour			25		■	■	■	GHS05
LCK319	Cyanide, easily liberatable	0.03 - 0.35 mg/L CN	Hach Method			24 (test includes zero solution)		■	■	■	GHS05, GHS07, GHS09
LCK315	Cyanide, free	0.01 - 0.6 mg/L CN	Babituric Acid-Pyridine			25		■	■	■	GHS05, GHS07, GHS08
LCK323	Fluoride	0.1 - 2.5 mg/L F	SPADNS		29153	25		■	■	■	GHS05
LCK325	Formaldehyde	0.5 - 10 mg/L H_2CO	Acetylacetone			24 (test includes zero solution)		■	■	■	GHS07
LCK425	Formaldehyde	0.5 - 10 mg/L H_2CO	Acetylacetone	ISO12460		25		■	■	■	-
LCS325	Formaldehyde, trace	0.01 - 1.0 mg/L H_2CO	Acetylacetone			24 (test includes zero solution)			■	■	GHS07
LCS425	Formaldehyde (trace)	0.05 - 3.0 mg/L H_2CO	Acetylacetone	ISO12460		25			■	■	-
LCK320	Iron	0.2 - 6.0 mg/L Fe (II/III)	1.10-Phenanthroline	DIN 38406-E1	2833649	24		■	■	■	GHS07
LCK321	Iron	0.2 - 6.0 mg/L Fe	1.10-Phenanthroline	ISO 6332-1988, DIN 38406 E1-1	LCA701	25		■	■	■	GHS09
LCK521	Iron, trace	0.01 - 1.0 mg/L Fe	1.10-Phenanthroline	ISO 6332-1988, DIN 38406 E1-1	LCA706	20			■	■	GHS09
LCK306	Lead	0.1 - 2.0 mg/L Pb	PAR		LCA701	25		■	■	■	GHS06, GHS07, GHS09
LCK326	Magnesium	0.5 - 50 mg/L Mg	Metalphthalein		1479442	25		■	■	■	-

LCK Cuvette Tests

Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LYW185	Menthol	0.5 - 15 mg/100 mL Menthol	p-Dimethylamino-benzaldehyde			25		■	■	■	GHS05
LCK330	Molybdenum	3 - 300 mg/L Mo	Thioglycolic Acid			24		■	■	■	GHS05, GHS06
LCK337	Nickel	0.1 - 6.0 mg/L Ni	Dimethylglyoxime	DIN 38406-E11	LCA701	25		■	■	■	GHS03 GHS05, GHS07, GHS08
LCK537	Nickel (trace)	0.05 - 1.0 mg/L Ni	Dimethylglyoxime		LCA706	20			■	■	GHS05, GHS07, GHS08
LCK237	Nickel baths (acidic)	5 - 120 g/L Ni	Intrinsic Baths Colour			25		■	■	■	GHS05
LCK339	Nitrate	0.23 - 13.5 mg/L NO_3-N	2.6-Dimethylphenol	DIN 38405 D9-2, **ISO 23696-1**	LCA703	25	Yes	■	■	■	GHS02, GHS05, GHS07
LCK340	Nitrate	5 - 35 mg/L NO_3-N	2.6-Dimethylphenol	DIN 38405 D9-2, **ISO 23696-1**	LCA704	25	Yes	■	■	■	GHS02, GHS05
LCK540	Nitrate	15 - 150 mg/L NO_3-N	2.6-Dimethylphenol	DIN 38405 D9-2, **ISO 23696-1**		25	Yes	■	■	■	GHS02, GHS05
LCK341	Nitrite	0.015 - 0.6 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA707	25	Yes	■	■	■	GHS07
LCK342	Nitrite	0.6 - 6.0 mg/L NO_2-N	Diazotisation	EN ISO 26777, DIN 38405 D10	LCA709	25	Yes	■	■	■	GHS07
LCK343	Nitrite	2 - 90 mg/L NO_2-N	Diazotization	EN ISO 26777, DIN 38405 D10		25		■	■	■	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, **ISO23697-1**	LCA709	25	Yes	■	■	■	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, **ISO23697-1**	LCA700	25	Yes	■	■	■	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, **ISO23697-1**	LCA708	25	Yes	■	■	■	GHS02, GHS05, GHS07, GHS08
LCK438	Nitrogen total (Laton)	100 - 250 mg/L TN_b	Koroleff digestion (Peroxodisulphate), and photometric detection with 2.6-Dimethylphenol	EN ISO 11905-1, ISO23697-1		25	Yes	■	■	■	GHS02, GHS05, GHS07, GHS08
LCK365	Organic acids	50 - 2500 mg/L as Acetic acid	Esterification			25		■	■	■	GHS05, GHS07, GHS08, GHS09
LCK345	Phenols	0.05 - 5 mg/L Phenols	4-Nitroaniline			24 (test includes zero solution)		■	■	■	GHS05, GHS07, GHS09
LCK346	Phenols	5 - 150 mg/L Phenols	4-Aminoantipyrine	ISO 6439-1990, DIN 38409 H16		24 (test includes zero solution)		■	■	■	GHS03, GHS07, GHS08
LCK049	Phosphate, ortho	1.6 - 30 mg/L PO_4-P	Vanadate-Molybdate		LCA703	25		■	■	■	GHS05
LCK549	Phosphate, ortho (trace)	0.01 - 0.5 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA549	20			■	■	GHS05, GHS07, GHS08
LCK348	Phosphate, ortho + total	0.5 - 5.0 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878_2004, DIN EN 6878 / D11	LCA700, LCA707	25	Yes	■	■	■	GHS05, GHS07, GHS08

DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

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

Bold: Test corresponds to ISO standard

-: product is not subject to classification; GHS hazard code descriptions: see page 13

Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LCK349	Phosphate, ortho + total	0.05 - 1.5 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878_2004, DIN EN 6878 / D11	LCA704, LCA709	25	Yes	■	■	■	GHS05, GHS07, GHS08
LCK350	Phosphate, ortho + total	2 - 20 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878_2004, DIN EN 6878 / D11	LCA703, LCA708	25	Yes	■	■	■	GHS05, GHS07, GHS08
LCK351	Phosphate, ortho + total	10 - 100 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878_2004, DIN EN 6878 / D11	2321142 (dilution 1:20)	25	Yes		■	■	GHS05, GHS07, GHS08
LCS349	Phosphate, ortho + total (trace)	0.01 - 0.5 mg/L PO_4-P	Phosphor-molybdenum Blue	ISO 6878-1-1986, DIN 38405 D11-4	LCA704, LCA709	25			■	■	GHS05, GHS07, GHS08
LCK240	Photometric Iodine sample (PIS)	> 0.2	MEBAK Method	MEBAK II		25				■	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 (test includes zero solution)		■	■	■	GHS06
LCK354	Silver	0.04 - 0.8 mg/L Ag	Hach Method		1461342	25		■	■	■	GHS02, GHS07, GHS08
LCK355	Silver	5 - 400 mg/L Ag (I)	Hach Method		1461342	25		■	■	■	GHS05
LCK318	Sludge activity	5 - 200 µg Formazan (SA)	Colorimetric	DIN 38412-3				■	■	■	GHS02
LCK357	Starch	2 - 150 mg/L Starch	Hach Method			25		■	■	■	-
LCK153	Sulphate	40 - 150 mg/L SO_4	Barium Sulphate		LCA704	25		■	■	■	GHS06
LCK353	Sulphate	150 - 900 mg/L SO_4	Barium Sulphate		LCA701, LCA702, LCA703	25		■	■	■	GHS06, GHS07
LCK653	Sulphide	0.1 - 2.0 mg/L S_2^-	Dimethyl-p-phenylenediamine	ISO 10530-1991, DIN 38405-D26		25		■	■	■	GHS05
LCK654	Sulphite	0.1 - 5.0 mg/L SO_3	Hach 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		■	■	■	GHS06, GHS08
LCK432	Surfactants, anionic	0.1 - 4.0 mg/L	Methylene Blue (MBA)	ISO 7875-1-2-1984, DIN 38409-H 23-1		25		■	■	■	GHS06, GHS08
LCK331	Surfactants, cationic	0.2 - 2.0 mg/L	Bromophenol Blue			25		■	■	■	GHS02, GHS05, GHS06, GHS08
LCK333	Surfactants, nonionic	0.2 - 6.0 mg/L as Triton x 100	TBPE		LCA333	25		■	■	■	GHS02, GHS08
LCK334	Surfactants, nonionic	0.1 - 20 g/L	CTAS	DIN 38409-H23-2		25		■	■	■	GHS06, GHS08, GHS09
LCK433	Surfactants, nonionic	6 - 200 mg/L as Triton x 100	TBPE			25		■	■	■	GHS02, GHS08
LCK359	Tin	0.1 - 2.0 mg/L Sn	Pyridinfluoron (PYF)			24 (test includes zero solution)		■	■	■	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		■	■	■	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		■	■	■	GHS03, GHS07, GHS08

LCK Cuvette Tests

Part number	Parameter	Measuring range	Method	According to standard	Quality control	Number of tests	Truecal	DR 1900	DR 3900	DR 6000	GHS Hazard Code
LCK385	TOC	3 - 30 mg/L C	Purging Method, Persulphate Digestion	EN 1484, DIN 38409-H3	LCA704	25		■	■	■	GHS05, GHS08
LCK386	TOC	30 - 300 mg/L C	Purging Method, Persulphate Digestion	EN 1484, DIN 38409-H3	LCA703	25		■	■	■	GHS05, GHS08
LCK387	TOC	300 - 3000 mg/L C	Purging Method, Persulphate Digestion	EN 1484, DIN 38409-H3	LCA705	25		■	■	■	GHS05, GHS08
LCK242	Vicinal diketones (VDK)	0.015 - 0.5 mg/kg Diacetyl	Analogous MEBAK Method	MEBAK II		25				■	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 (test includes zero solution)		■	■	■	-
LCK360	Zinc	0.2 - 6.0 mg/L Zn	PAR		LCA701	24 (test includes zero solution)		■	■	■	GHS07
LCS360	Zinc, trace	0.02 - 0.8 mg/L Zn	PAR		LCA701	24 (test includes zero solution)		■	■	■	GHS07
LCK364	Zirconium	6 - 60 mg/L	SurTec / Hach Method			12 - 24 (dependent on number of reagent blanks)		■	■	■	GHS05

The LCK Cuvette Test package informs users about parameter, measuring range, work steps, lot specific data and GHS hazard codes.

DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

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

Bold: Test corresponds to ISO standard

-: product is not subject to classification; GHS hazard code descriptions: see page 13

Accessories for Cuvette Tests

A selection of accessories for the determination of AOX, BOD, sludge activity, surfactants and TOC with LCK Cuvette Tests.

TOC-X5 TOC Shaker for purging the inorganic carbon (TIC) to determine TOC with LCK385, LCK386 and LCK387.

Part number	Description
LYW854	Magnetic stirrer, 0 - 1500 rpm
	AOX
LZC910	Carbodisk Active carbon disks for the AOX reference analysis
	BOD
LZC555	BioKit for BOD_5 cuvette test, as inoculation mat., 20 tests
LZC901	BOD_5 dilution water set
LZC924	Set of reaction glasses with caps, 60 pieces
LZC955	AquaKit for BOD_5 dilution water set
LZP065	Reaction vessels with screw caps, 20 mm diameter, 5 pieces
EBT006	Funnel
HBG011	Beaker 150 mL
	Sludge activity
LZC918	Accessory Kit sludge activity
LCW904	Membrane filtration set with 50 membrane filters 1.2 µm
	Surfactants
LQV148.99.10001	LS120 Shaker for surfactant analysis
	TOC
LCW912	Powder dispenser
LCW916	Membrane filtration set with 50 membrane filters 0.45 µm
LQV148.99.00001	TOC-X5 TOC Shaker for purging method

GHS Hazard Codes

Liquid Reagents

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.

Part number	Parameter	Measuring range	Method	Method number	Quality control	Number of tests	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2458200	Ammonia	0.02 - 2.50 mg/L NH_3-N	Nessler	8038		250	■	■	■	■	GHS05, GHS06, GHS09
2242200	Cadmium	0.7 - 80 µg/L Cd	Dithizone	8017	1402442	60 - 100		■	■	■	GHS06, GHS07, GHS08, GHS09
2556900	Chlorine, free	0.02 - 5.00 mg/L Cl_2	DPD	10059	1426810, 2630020	450		■	■	■	GHS07
HPT210	Chlorine, free	0.02 - 2.00 mg/L	DPD		2630020, 1426810	100	■	■	■	■	GHS05
HPT310	Chlorine, free + total	0.02 - 2.00 mg/L Cl_2	DPD	RS	2630020, 1426810	100	■	■	■	■	GHS05
2557000	Chlorine, total	0.02 - 5.00 mg/L Cl_2	DPD	8370	2630020, 1426810	450		■	■	■	GHS05, GHS07
LCW510	Chlorine/Ozone	0.1 - 1.5 mg/L Cl_2 / O_3 (round cuvette)	DPD			100			■	■	GHS07
2242300	Chlorine dioxide	0.01 - 1.00 mg/L ClO_2	Chlorophenol Red	8065		100		■	■	■	GHS05, GHS07
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	8078	2150342, 1417642	100		■	■	■	GHS05, GHS07, GHS08, GHS09
44449	Fluoride	0.02 - 2.00 mg/L F	SPADNS	8029	29153	125	■	■	■	■	GHS05, GHS07
2257700	Formaldehyde	3 - 500 µg/L CH_2O	MBTH	8110		100		■	■	■	GHS05, GHS07
2603100	Hardness	8 - 1000 µg/L $CaCO_3$	Chlorophosphonazo	8374	2833449	100		■	■	■	GHS05, GHS06, GHS07
2319900	Hardness, Ca and Mg	0.05 - 4.00 mg/L Ca as $CaCO_3$	Calmagite Colorimetric	8030	218710	100	■	■	■	■	GHS05, GHS07
179032	Hydrazine	4 - 600 µg/L N_2H_4	p-Dimethylamin-obenzaldehyde	8141		100	■	■	■	■	GHS05
LCW025	Hydrazine	0.01 - 2.0 mg/L N_2H_4	4-Dimethylamin-obenzaldehyde			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	8147	1417542	500 - 1000		■	■	■	GHS05, GHS06, GHS08
LCW021	Iron	0.005 - 0.25 mg/L Fe	Iron(II) ions react with FerroZine to form a violet complex compound			50			■	■	GHS05
2375000	Lead	5 - 150 µg/L Pb	LeadTrak	8317	1426210	20		■	■	■	GHS05, GHS07, GHS08

Part number	Parameter	Measuring range	Method	Method number	Quality control	Number of tests	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2651700	Manganese	0.006 - 0.700 mg/L Mn	PAN	8149	1279142	50	■	■	■	■	GHS05, GHS06, GHS08, GHS09
LCW532	Manganese	0.005 - 0.5 mg/L Mn	1-(2-pyridylazo)-2-naphthol (PAN)			50			■	■	GHS02, GHS05, GHS06, GHS08, GHS09
LCW032	Manganese	0.2 - 5 mg/L Mn (round cuvette or 10 mm rectangular cuvette)	Formaldoxime		LCA706	50			■	■	GHS05, GHS06, GHS07, GHS08, GHS09
2658300	Mercury	0.1 - 2.5 µg/L Hg	Cold Vapour Concentration	10065	1419542	25		■	■	■	GHS03, GHS05, GHS06, GHS07, GHS08, GHS09
2657512	pH	6.5 - 8.5 pH	Colorimetric Phenol Red			50	■				-
2076049	Phosphate, ortho	0.3 - 45.0 mg/L PO_4	Molybdovanadate	8114	2109210	250		■	■	■	GHS05, GHS07
2244100	Phosphate, ortho	0.23 - 30.00 mg/L PO_4	Amino Acid	8178	2109210	100	■	■	■	■	GHS05, GHS08
2076032	Phosphate, ortho	0.3 - 45.0 mg/L PO_4	Molybdovanadate	8114	2109210	50	■	■	■	■	GHS05, GHS07
LCW250	Reducing agent	0.05 - 1.0 mg/L DEHA	Iron Reduction Method			100			■	■	-
2553500	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	8282	110649	100		■	■	■	GHS05, GHS08
2581400	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	8282	110649	40		■	■	■	GHS05, GHS08
2678500	Silica	3 - 1000 µg/L SiO_2	Heteropoly Blue	8282	110649	250		■	■	■	GHS05, GHS07, GHS08
LCW028	Silica	0.01 - 0.8 mg/L SiO_2	Molybdenum Blue			50			■	■	-
2244500	Sulphide	5 - 800 µg/L S^{2-}	Methylene Blue	8131		100	■	■	■	■	GHS05, GHS08
LCW053	Sulphide	0.1 - 2.0 mg/L S^{2-}	Dimethyl-p-phenyl-enediamine			25 - 49			■	■	-
HPT430	Sulphite	0.1 - 5.0 mg/L SO_3	Hach Method		2267410	100		■	■	■	GHS07
LCW054	Sulphite	0.1 - 5.0 mg/L SO_3	Hach Method		2267410	100			■	■	-
2244600	Tannin & Lignin	0.1 - 9.0 mg/L as Tannic Acid	Tyrosine	8193		100	■	■	■	■	GHS05, GHS07, GHS08
2790800	Trihalomethanes	10 - 600 µg/L $CHCl_3$	THM Plus	10132		50 - 99		■	■	■	GHS05, GHS06, GHS07
2244700	Volatile acids	27 - 2800 mg/L HOAc	Esterification	8196		100	■	■	■	■	GHS05, GHS07, GHS08

DR900: Multi-parameter Colorimeter, DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

-: product is not subject to classification; GHS hazard code descriptions: see page 13

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 photometer.

Part number	Parameter	Measuring range	Method	Method number	Quality control	Number of tests	DR 300	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2242000	Aluminium	0.008 - 0.800 mg/L Al	Aluminon	8012	1417442	100	■	■	■	■	■	GHS05, GHS06, GHS07
2603700	Aluminium	0.002 - 0.250 mg/L Al	Eriochrome Cyanine R	8326	1417442	100			■	■	■	GHS02, GHS07, GHS08
2668000	Ammonia	0.01 - 0.50 mg/L NH_3-N	Salicylate	8155	15349	100	■	■	■	■	■	GHS05, GHS07
2459200	Ammonium compounds, quaternary	0.2 - 5.0 mg/L as CTAB	Direct Binary Complex	8337		100			■	■	■	GHS07
1206499	Barium	2 - 100 mg/L Ba	Turbidimetric	8014	1461142	100			■	■	■	GHS08
2141299	Benzotriazole, Tolyltriazole	1.0 - 20.0 mg/L Tolyltriazole 1.0 - 16.0 mg/L Benzotriazole	UV Photolysis	8079		100		■	■	■	■	GHS05, GHS07
1417099	Boron	0.2 - 14.0 mg/L B	Carmine	8015		100			■	■	■	GHS07
2105669	Bromine	0.2 - 10.0 mg/L Br_2	DPD	8016	1426820	100	■					GHS07
2105669	Bromine	0.05 - 4.50 mg/L Br_2	DPD	8016	1426820	100		■	■	■	■	GHS07
2802246	Chloramine, mono	0.04 - 4.50 mg/L Cl_2	Indophenol	10171		50	■	■	■	■	■	GHS05, GHS07
2105569	Chlorine, free	0.02 - 2.00 mg/L Cl_2	DPD	8021	1426810, 2630020	100	■	■	■	■	■	GHS07
1407099	Chlorine, free	0.1 - 10.0 mg/L Cl_2	DPD	8021	1426810, 2630020	100	■	■	■	■	■	GHS07
2105528	Chlorine, free, Chlorine dioxide	0.02 - 2.00 mg/L Cl_2	DPD	8021	1426810, 2630020	1000	■	■	■	■	■	GHS07
2105628	Chlorine, total	0.02 - 2.00 mg/L Cl_2	DPD	8167	1426810, 2630020	1000		■	■	■	■	GHS07
2105669	Chlorine, total, Bromine, Iodine	0.02 - 2.00 mg/L Cl_2 0.05 - 4.50 mg/L Br_2 0.07 - 7.00 mg/L I_2	DPD	8167	1426810, 2630020	100		■	■	■	■	GHS07
2770900	Chlorine dioxide	0.04 - 5.00 mg/L ClO_2	DPD/Glycine	10126		100		■	■	■	■	GHS07
1271099	Chromium	0.010 - 0.700 mg/L Cr(VI)	1,5-Diphenylcarbo-hydrazide	8023	1425610	100		■	■	■	■	GHS07, GHS08
2242500	Chromium, total	0.01 - 0.70 mg/L Cr	Alkaline Hypobromite Oxidation	8024	1425610	100		■	■	■	■	GHS05, GHS07, GHS08
2651600	Cobalt, Nickel	0.01 - 2.00 mg/L Co	PAN	8078	2150342, 1417642	100			■	■	■	GHS05, GHS07, GHS08, GHS09
2105869	Copper	0.04 - 5.00 mg/L Cu	Bicinchoninate	8506	12842	100		■	■	■	■	GHS07
2603300	Copper	2 - 210 µg/L Cu	Porphyrin	8143	12842	100		■	■	■	■	GHS02, GHS07

Part number	Parameter	Measuring range	Method	Method number	Quality control	Number of tests	DR 300	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2430200	Cyanide	0.002 - 0.240 mg/L CN	Pyridine-Pyrazalone	8027		100		■	■	■	■	GHS07
246066	Cyanuric acid	5 - 50 mg/L	Turbidimetric	8139		50		■	■	■		GHS07
2544800	Iron	0.01 - 1.80 mg/L Fe	FerroMo	8365	1417542	100		■	■	■	■	GHS05, GHS07, GHS08
2105769	Iron	0.02 - 3.00 mg/L Fe	FerroVer	8008	1417542	100	■	■	■	■	■	GHS05, GHS07, GHS08
2608799	Iron	0.012 - 1.800 mg/L Fe	TPTZ	8112	1417542	100	■	■	■	■	■	GHS05, GHS07, GHS08
230166	Iron	0.009 - 1.400 mg/L Fe	FerroZine	8147	1417542	50		■	■	■	■	GHS05, GHS06, GHS08
103769	Iron, ferrous	0.02 - 3.00 mg/L Fe(II)	1,10 Phenanthroline	8146	1417542	100		■	■	■	■	GHS07, GHS09
2430000	Manganese	0.1 - 20.0 mg/L Mn	Periodate Oxidation	8034	1279142	100	■	■	■	■	■	GHS02, GHS06, GHS07
2604100	Molybdenum	0.3 - 40.0 mg/L Mo	Mercaptoacetic Acid	8036		100		■	■	■	■	GHS05, GHS07, GHS08
2449400	Molybdenum, Molybdate	0.02 - 3.00 mg/L Mo	Ternary Complex	8169		100	■	■	■	■	■	GHS07
2243500	Nickel	0.02 - 1.80 mg/L Ni	Heptoxime	8037	1417642	50			■	■	■	GHS07, GHS08
2106169	Nitrate	0.3 - 30.0 mg/L NO_3-N	Cadmium Reduction	8039 HR	30749	100	■	■	■	■	■	GHS06, GHS07, GHS08, GHS09
2429800	Nitrate	0.01 - 0.50 mg/L NO_3-N	Cadmium Reduction	8192	30749	100		■	■	■	■	GHS07, GHS08, GHS09
2107169	Nitrite	0.002 - 0.300 mg/L NO_2-N	Diazotisation	8507	2340249	100		■	■	■	■	GHS07
2107569	Nitrite	2 - 250 mg/L NO_2	Ferrous Sulphate	8153		100		■	■	■	■	GHS07
2446600	Oxygen scavengers	5 - 600 µg/L Carbohydrazide	Iron Reduction	8140		100		■	■	■	■	GHS05, GHS07
2243900	Phenols	0.002 - 0.200 mg/L Phenol	4-Aminoantipyrine	8047		100			■	■	■	GHS07, GHS08
2106028	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	8048	256949	1000	■	■	■	■	■	GHS07
2106069	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	8048	256949	100	■	■	■	■	■	GHS07
2429700	Phosphonates	0.02 - 2.50 mg/L PO_4	Persulfate UV Oxidation	8007		100	■	■	■	■	■	GHS03, GHS07, GHS08
2459100	Potassium	0.1 - 7.0 mg/L K	Tetraphenylborate	8049		100			■	■	■	GHS05, GHS06, GHS07, GHS08
2460000	Potassium	0.1 - 7.0 mg/L K	Tetraphenylborate	10321	2351749	100		■	■	■	■	GHS05, GHS06, GHS07
2429600	Silica	1 - 100 mg/L SiO_2	Silicomolybdate	8185	110649	100		■	■	■	■	GHS07
2459300	Silica	0.010 - 1.600 mg/L SiO_2	Heteropoly Blue	8186	110649	100		■	■	■	■	GHS05, GHS07, GHS08
2296600	Silver	0.02 - 0.70 mg/L Ag	Colorimetric	8120	1461342	50			■	■	■	GHS07, GHS08
2106769	Sulphate	2 - 70 mg/L SO_4	SulfaVer 4, turbidimetric	8051	257849	100		■	■	■	■	GHS07
2429300	Zinc	0.01 - 3.00 mg/L Zn	Zincon	8009	237842	100	■	■	■	■	■	GHS02, GHS06, GHS07, GHS08, GHS09

DR300: Single parameter Colorimeter, DR900: Multi-parameter Colorimeter, DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

GHS hazard code descriptions: see page 13

Swiftests

The right amount 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.

Part number	Description	Measuring range	Method	Method number	Quality control	Number of tests	DR 300	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2105560	DPD Free chlorine, Swiftest dispenser reagent (refill)	0.02 - 2.00 mg/L Cl_2	DPD	8021	1426810, 2630020	250	■	■	■	■	■	GHS07
2105660	DPD Total chlorine, Swiftest dispenser reagent (refill)	0.02 - 2.00 mg/L Cl_2	DPD	8167	1426810, 2630020	250	■	■	■	■	■	GHS07, GHS09
2802300	Swiftest DPD Free chlorine reagent dispenser and reagent vial	0.02 - 2.00 mg/L Cl_2	DPD	8021	1426810, 2630020	250	■	■	■	■	■	GHS07
2802400	Swiftest DPD Total chlorine reagent dispenser and reagent vial	0.02 - 2.00 mg/L Cl_2	DPD	8167	1426810, 2630020	250	■	■	■	■	■	GHS07, GHS09

DR300: Single parameter Colorimeter, DR900: Multi-parameter Colorimeter, DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

GHS hazard code descriptions: see page 13

Accuvacs

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.

Part number	Parameter	Measuring range	Method	Method number	Quality control	Number of tests	DR 300	DR 900	DR 1900	DR 3900	DR 6000	GHS Hazard Code
2502025	Chlorine, free, Chlorine dioxide	0.02 - 2.00 mg/L Cl_2	DPD	8021	1426810, 2630020	25	■	■	■	■	■	GHS07
2503025	Chlorine, total Bromine Iodine	0.02 - 2.00 mg/L Cl_2 0.05 - 4.50 mg/L Br_2 0.07 - 7.00 mg/L I_2	DPD	8167 Chlorine	2630020	25	■	■	■	■	■	GHS07
2527025	Fluoride	0.02 - 2.00 mg/L F	SPADNS 2	8029	29153	25		■	■	■	■	GHS05, GHS07
2507025	Iron	0.02 - 3.00 mg/L Fe	FerroVer	8008	1417542	25	■	■	■	■	■	GHS05, GHS07, GHS08
2510025	Iron	0.012 - 1.800 mg/L Fe	TPTZ	8112	1417542	25	■	■	■	■	■	GHS05, GHS07, GHS08
2501025	Oxygen, dissolved	6 - 800 µg/L O_2	Indigo Carmine	8166, 8333		25		■	■	■	■	GHS05, GHS08
2515025	Oxygen, dissolved	0.3 - 15.0 mg/L O_2	HRDO	8166		25	■	■	■	■	■	GHS05, GHS07, GHS08, GHS09
2516025	Ozone	0.01 - 0.25 mg/L O_3	Indigo	8311		25	■	■	■	■	■	GHS07
2517025	Ozone	0.01 - 0.75 mg/L O_3	Indigo	8311		25	■	■	■	■	■	GHS07
2518025	Ozone	0.01 - 1.50 mg/L O_3	Indigo	8311		25		■	■	■	■	GHS07
2508025	Phosphate, ortho	0.02 - 2.50 mg/L PO_4	Ascorbic Acid	8048	256949	25	■	■	■	■	■	GHS07
2525025	Phosphate, ortho	0.3 - 45.0 mg/L PO_4	Molybdovanadate	8114	256949	25		■	■	■	■	GHS05

DR300: Single parameter Colorimeter, DR900: Multi-parameter Colorimeter, DR1900: Portable VIS Spectrophotometer, DR3900: Benchtop VIS Spectrophotometer, DR6000: Benchtop UV-VIS Spectrophotometer

GHS hazard code descriptions: see page 13

Addista

Multi-parameter standards for Analytical Quality Assurance

The comprehensive Addista AQA system for Hach LCK 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.

Part 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 LCK1414 COD, 5-60 mg/L O_2 LCK238 Total Nitrogen, 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 Phosphate (ortho), 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 LCI500 COD, 0-150 mg/L O_2 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
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

Part number	For the following cuvette tests / parameters
LCA708	LCK338 Total Nitrogen, 20-100 mg/L TN_b LCK514 COD, 100-2000 mg/L O_2 LCK1014 COD, 100-2000 mg/L O_2 LCK350 Phosphate (total), 2-20 mg/L PO_4-P
LCA709	LCK138 Total Nitrogen, 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
LCA720[1)]	**Traceable to Standard Reference Materials from NIST.** LCI400 COD (ISO 15705), 0-1000 mg/L O_2 APC400 COD (ISO 15705), 0-1000 mg/L O_2 APC114 COD, 150-1000 mg/L O_2 APC303 Ammonium, 2-47 mg/L NH_4-N APC338 Total Nitrogen, 20-100 mg/L TN_b APC340 Nitrate, 5-35 mg/L NO_3-N APC350 Phosphate, 2-20 mg/L PO_4-P
LCA721[1)]	**Traceable to Standard Reference Materials from NIST.** LCI500 COD (ISO 15705), 0-150 mg/L O_2 APC500 COD (ISO 15705), 0-150 mg/L O_2 APC314 COD, 15-150 mg/L O_2 APC304 Ammonium, 0.015-2.0 mg/L NH_4-N APC138 Total Nitrogen, 1-16 mg/L TN_b APC339 Nitrate, 0.23-13.5 mg/L NO_3-N APC349 Phosphate, 0.05-1.5 mg/L PO_4-P
2833149[1)]	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[1)]	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

[1)] Standard only, without round robin test solutions

Standard Solutions

Single parameter standards 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.

Part number	Parameter	Description	GHS Hazard Code
2349732	Alkalinity	Sulphuric acid standard solution, 0.035 N, 100 mL MDB	GHS05
20353	Alkalinity	Sulphuric acid standard solution, 0.020 N, 1 L	GHS05
15349	Ammonia	Ammonia standard solution, 10 mg/L NH_3-N, 500 mL	-
189149	Ammonia	Ammonia standard solution, 1 mg/L NH_3-N, 500 mL	-
2406549	Ammonia	Ammonia standard solution, 100 mg/L NH_3-N, 500 mL	-
LCA390	AOX	Addista Mono standard for AOX cuvette test LCK390, lot specific concentration	-
LCA555	BOD	Addista Mono standard for BOD cuvette test LCK555, 200 mg/L O_2	GHS03, GHS07
1486510	BOD	BOD standard solution, 300 mg/L O_2, 10 mL, 16 pcs	-
1486610	BOD	BOD standard solution, 3000 mg/L O_2, 10 mL, 16 pcs	-
LCA310	Chlorine	Addista Mono standard for chlorine cuvette test LCK310, 25 - 30 mg/L Cl_2	-
1426810	Chlorine	Chlorine standard solution, 50-75 mg/L Cl_2	-
2630020	Chlorine	Chlorine standard solution, 25-30 mg/L Cl_2, 20 pcs.	GHS05
2635300	Chlorine	SpecCheck Gel Secondary Standard Kit, DPD, 0-2.0 mg/L Cl_2	-
1218629	COD	COD standard solution, 300 mg/L O_2 (NIST), 200 mL	-
2253929	COD	COD standard solution, 1000 mg/L O_2 (NIST), 200 mL	-
1218649	COD	COD standard solution, 300 mg/L O_2 (NIST), 500 mL	-
141453	Colour	Colour standard solution, 500 Pt Co Units, 1 L	GHS05
2602853	Colour	Colour standard solution, 15 Pt Co Units, 1 L	GHS05
1440042	Conductivity	Sodium chloride standard solution, 1000 µS/cm (NIST), 100 mL	-
1440049	Conductivity	Sodium chloride standard solution, 1000 µS/cm (NIST), 500 mL	-
210553	Conductivity	Sodium chloride standard solution, 1990 µS/cm (NIST), 1 L	-
2971849	Conductivity	Sodium chloride standard solution, 100 µS/cm (NIST), 500 mL	-
2972249	Conductivity	Sodium chloride standard solution, 10000 µS/cm (NIST), 500 mL	-
1417542	Iron	Iron standard solution 100 mg/L Fe (NIST), 100 mL	GHS05
2340249	Nitrite	Nitrite standard solution, 250 mg/L NO_2-N, APHA, 500 mL	GHS08
1424342	Phosphate	Phosphate standard solution, 15 mg/L PO_4, 100 mL	-
17149	Phosphate	Phosphate standard solution, 50 mg/L PO_4 (NIST), 500 mL	-
256949	Phosphate	Phosphate standard solution, 1 mg/L PO_4, 500 mL	-
110649	Silica	Silica standard solution, 1 mg/L SiO_2 (NIST), 500 mL	-
2175749	Sulphate	Sulphate standard solution, 1000 mg/L SO_4 (NIST), 500 mL	-
257849	Sulphate	Sulphate standard solution, 50 mg/L SO_4 (NIST), 500 mL	-
LCA333	Surfactants, non-ionic	Addista Surfactants standard for LCK333, 1g/L Triton x 100	-
244932	Varies	Sulphuric acid standard solution, 5.25 N, 100 mL	GHS05
20253	Varies	Sulphuric acid standard solution, 0.100 N, 1 L	GHS05
2332453	Varies	Sodium hydroxide standard solution, 6 N, 1 L	GHS05
2339349	Varies	Sulphuric acid 0.04 N, 500 mL	GHS05
28249	Varies	Potassium hydroxide standard solution, 8.00 N, 500 mL	GHS05, GHS07

-: product is not subject to classification; GHS hazard code descriptions: see page 13

Sample Preparation

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

Part number	Description	GHS Hazard Code
2641549	Dilution water, organic free, 500 mL	-
2744940	Chloride test strips, low range, 30 - 600 mg/L, 40 pcs	-
2751340	Chloride test strips, 300 - 6000 mg/L, 0.05 - 1.0 % NaCl, 40 tests	-
LCW902	Crack Set Reagent set for metal digestions (for suitable thermostats see page 42-43)	GHS03, GHS05, GHS07, GHS08
LCW903	Calcium separation set	GHS07
LCW907	Screening test for organic complexing agents	GHS05
LCW908	Digestion solution for chloride in concrete	GHS05, GHS07
LCW925	Chloride elimination set	GHS03, GHS05, GHS09
LCW954	Set for digestion of total silver	GHS03, GHS07, GHS08
LYW513	Chromium digestion for highly loaded samples	GHS03, GHS05, GHS07, GHS08
LYW854	Magnetic stirrer, 0 - 1500 rpm	
LYW064	Magnetic stirrer rods, 3 pieces	
LCW912	Powder dispenser	
LCW904	Membrane filtration set with 50 membrane filters 1.2 µm	
LCW916	Membrane filtration set with 50 membrane filters 0.45 µm	
LZC902	Timer clock	

-: product is not subject to classification

GHS hazard code descriptions: see page 13

Accessories

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

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

Part number	Description
	Cuvette consumables
LYW915	Rack for 16 Hach LCK round cuvettes or rectangular cuvettes 10 mm
2497912	Rack for 20 reaction vessels
ETS016	Rack for 7 cuvettes with layer thickness of 50 mm
1864100	Cooling rack for 8 tubes (COD tubes, 16 mm)
2497904	Rack, test tube, Polyethylene, 30 mm (O.D.), 21 holes
1480802	Stopper, Neoprene, solid, size 2, 12 pieces
173106	Stopper for 18 mm glass viewing tube, 6 pieces
EZZ073	Disposable paper tissues, white, 200 pieces
LCW919	Blank value cuvette set
LZC924	Set of reaction glasses with caps, 60 pieces
	Pipettes & pipette tips
LCA722	Pipette validation Kit: For accuracy check of pipettes within the Analytical Quality Assurance (AQA).
BBP087	Tensette plus electronic pipette
BBP081	Pipette tips 0.2 - 5.0 mL for electronic pipette (100 pcs)
BBP089	Battery for electronic pipette BBP087
LZP320	Set of 2 pipettes, variable volume, incl. tips
BBP065	Pipette, variable, volume 1.0 - 5.0 mL
BBP072	Pipette tips 1.0 - 5.0 mL (100 pcs)
LYW787	Pipette tips 1.0 - 5.0 mL (1000 pcs)
BBP078	Pipette, variable, volume 0.1 - 1.0 mL
BBP079	Pipette tips 0.1 - 1.0 mL (100 pcs)
LYW788	Pipette tips 0.1 - 1.0 mL (1000 pcs)
LYW964	Rack for 5 pipettes
	Safety accessories
EZZ031	Safety goggles, transparent, DIN 58211, suitable for spectacle wearers
EZZ042	Safety goggles Uvex according DIN 58211, green / purple
HYB008	Adhesive tape, width 75 mm, for transportation of hazardous materials
SM743L	Protective gloves size L, blue, nitrile, powder-free, 50 pieces
SM743M	Protective gloves size 7 (M), blue, nitrile, powder-free, 50 pieces
SM995417	Single use latex gloves size 7 (M), powder-free, green, 100 pieces
SM995418	Single use latex gloves size L, powder-free, green, 100 pieces
	Glass vessels
HBG011	Beaker 150 mL
LZP065	Reaction vessels with screw caps, 20 mm diameter, 5 pieces
LZP141	Volumetric flask 50 mL, class A wide neck, NS12/21 PP-stopper, 2 pieces
LZP142	Volumetric flask 100 mL, class A, NS 14/23, PP-stopper, 2 pieces
LZP143	Graduated cylinder 50:1 mL, tall form, class B, 2 pieces
LZP144	Graduated cylinder 100:1 mL, tall form, class B, 2 pieces

Spectrophotometers

Quick reference guide

DR6000

DR3900

DR1900

	DR6000 UV-VIS spectrophotometer	DR3900 VIS Spectrophotometer	DR1900 Portable VIS Spectrophotometer
Specific Technology	IBR+ Automatic test recognition, lot control and expiry date check RFID for easy method update, sample ID and Certificate of Analysis Link2sc Data exchange with SC controller Q+ Quality Assurance Function to schedule and document QA with pass/fail indication	IBR+ Automatic test recognition, lot control and expiry date check RFID for easy method update, sample ID and Certificate of Analysis Link2sc Data exchange with SC controller Q+ Quality Assurance Function to schedule and document QA with pass/fail indication	
Supported Chemistry	LCK Cuvette Tests, Hach chemistries	LCK Cuvette Tests, Hach chemistries	LCK Cuvette Tests, Hach chemistries
Wavelength range	190 - 1100 nm	320 - 1100 nm	340 - 800 nm
Preprogrammed methods	240	220	220 (Please note: LCK Cuvette Tests can be evaluated, but without 10-fold rotational measurement and barcode reader.)
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 mm, 50 mm, 1 inch Round: 13 mm, 1 inch	Rectangular: 10 mm, 1 inch Round: 13 mm, 1 inch
Display	7 TFT WVGA colour touchscreen	7 TFT WVGA colour touchscreen	Graphical display 240 x 160 pixel (LCD, b/w, backlit)
Operating mode	Transmittance (%), Absorbance and Concentration, Scanning	Transmittance (%), Absorbance and Concentration, Scanning	Transmittance (%), Absorbance and Concentration
Photometric Measuring Range	± 3 Abs (wavelength range 340 - 900 nm)	± 3.0 Abs (wavelength range 340 - 900 nm)	0 - 3 Abs (wavelength range 340 - 800 nm)
Photometric Accuracy	5 mAbs @ 0.0 - 0.5 Abs 1 % at 0.50 - 2.0 Abs	5 mAbs @ 0.0 - 0.5 Abs 1 % at 0.50 - 2.0 Abs	± 0.003 Abs @ 0.0 - 0.5 Abs
Wavelength resolution	0.1 nm	1 nm	
Spectral Bandwidth	2 nm	5 nm	
Optical System	Reference beam, spectral	Reference beam, spectral	Reference beam, spectral
Source lamp	Tungsten (VIS), Deuterium lamp (UV)	Gas-filled Tungsten (visible)	Xenon Flash
Data Logger	5000 measured values (Result, Date, Time, Sample ID, Operator ID)	2000 measured values (Result, Date, Time, Sample ID, Operator ID)	500 measured values (Result, Date, Time, Sample ID, Operator ID)
Interfaces	USB type A (2), USB type B, Ethernet, RFID module	USB type A (2), USB type B, Ethernet, RFID module	USB type Mini IP67 (with optional module)
Power Supply	110 - 240 VAC, 50 - 60 Hz	110 - 240 VAC, 50 - 60 Hz	110 - 240 VAC, 50 - 60 Hz (Optional module required. May not be available in all regions.) 4x AA size Alkaline 4x NiMH rechargeable battery
Dimensions (H x W x D)	215 mm x 500 mm x 460 mm	151 mm x 350 mm x 255 mm	98 mm x 178 mm x 267 mm
Weight EU	11 kg	4.2 kg	1.5 kg

Subject to change without notice.

Colorimeters

Quick reference guide

SL1000 SL250

	DR900 Multi-parameter Colorimeter	DR300 Single parameter Colorimeter	SL1000 / SL250 Portable Parallel Analyser (PPA)
Specific technology			2 Ports for Intellical probes for pH, conductivity, etc.
Supported Chemistry	Hach chemistries	Hach chemistries	Hach Chemkeys
Operating mode	Transmittance (%), Absorbance and Concentration		Transmittance (%), absorbance (abs) and concentration (Conc)
Source lamp	Light Emitting Diode (LED)	Light emitting diode (LED)	Light Emitting Diode (LED)
Wavelength Range	420, 520, 560, 610 nm	Instrument specific	
Photometric Measuring Range	0 - 2 Abs	0 - 2.5 Abs	
Wavelength Accuracy	± 1 nm		
Spectral Bandwidth	15 nm filter bandwidth	15 nm filter bandwidth	
Photometric Accuracy	± 0.03 Abs		
Photometric linearity	± 0.002 Abs (0 - 1 Abs)		
Wavelength selection	Automatic (based on test selected)		
Stray Light	< 1.0 % at 400 nm		
Display	Graphical display 240 x 160 pixel (Backlit)	LCD with backlight	
User programs	10		
Data storage		Last 50 measurements	1000 measured values (result, date, time, site ID, user ID)
Cuvette compatibility	1 inch round / 16 mm round (with adapter)	1 cm (10 mL), 25 mm (10 mL)	
Power supply	4 AA size batteries	Four AAA alkaline batteries; approximate life is 5000 tests	110 - 240 VAC, 50 - 60 Hz Rechargeable Lithium-Ion battery pack, 7.4 V, 5.0 Ah (5000 mAh)
Battery Life	6 months (typical) at 5 readings a day / 5 day week without backlight (backlight usage will decrease battery life)		>200 Chemkey tests per full battery charge
Interface	USB type Mini IP67		Mini USB port
Enclosure Rating	IP67	IP67, waterproof at 1 m for 30 minutes	IP54
Dimensions (H x W x D)	231 mm x 96 mm x 48 mm	34 mm x 69 mm x 157 mm	
Weight EU	0.6 kg with battery	0.25 kg	1.2 kg / 1.0 kg

Subject to change without notice.

AP3900 Laboratory Robot

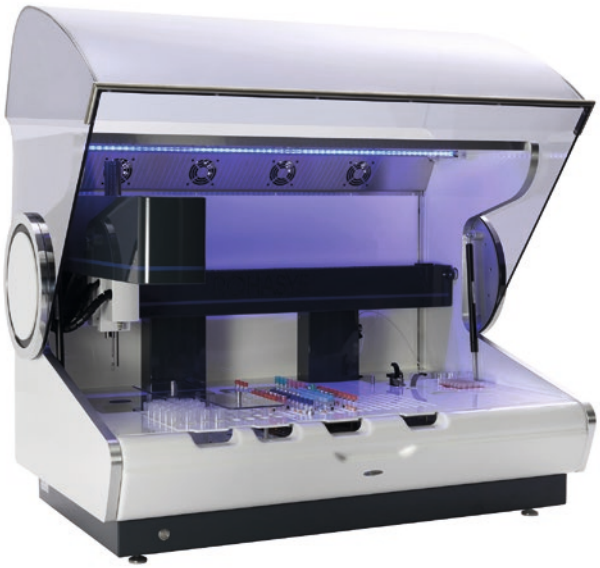
Laboratory robot for water analysis including sample preparation. Modular concept. Basic version contains COD, total P, total N, Ammonium, Nitrate and Nitrite.

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.



Your Benefits

- 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
- High safety standard
- Cost effective for 20 or more tests per day

Technical data

Detector	DR3900 Spectrophotometer
Measurement method	Automatic LCK Cuvette Test (13 mm test tube); 10 times measurement and 2D barcode
Number of sample positions	24 (optional 48 and 100)
Number of cuvette positions	160
Number of reagent positions	12
Number of heating positions	Standard heater: 2 x 24 (optional 2 x 48) High temperature heater (optional): 3 or 6
Temperature	Selectable: 40°C, 100°C, 110°C, 120°C, 148°C, 150°C (and 170°C with HT heater)
Dispenser	Calibrated Hamilton Dispenser 1 mL
Dosing system (reagent)	Reagent - pipette tips
Dosing system (sample)	Sample - PTFE sheathed needle, ID 2 mm, stirrer with 9 mm paddle
Calibration	Range 0.2 - 2.0 mL
Compressed air pressure	5 bar
Power supply	230 VAC, 50/60 Hz
Dimensions (H x W x D)	950 mm x 1290 mm x 840 mm
Weight	150 - 170 kg

Subject to change without notice.

APC chemistry – exclusively suitable for the AP3900

Part number	Parameter	Measuring Range	Method	Fast digestion option	According to standard	Quality control	Number of tests	GHS Hazard Code
APC304	Ammonium	0.015 - 2.0 mg/L NH_4-N	Indophenol Blue		ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, ISO 23695	LCA700 LCA721	100	GHS05, GHS07, GHS09
APC303	Ammonium	2 - 47 mg/L NH_4-N	Indophenol Blue		ISO 7150-1, DIN 38406 E5-1, UNI 11669:2017, ISO 23695	LCA703 LCA720	100	GHS05, GHS07, GHS09
APC114	COD	150 - 1000 mg/L O_2	Dichromate	■	ISO 6060-1989, DIN 38409-H41-H44	LCA703 LCA720	100	GHS05, GHS06, GHS08, GHS09
APC314	COD	15 - 150 mg/L O_2	Dichromate	■	ISO 6060-1989, DIN 38409-H41-H44	LCA704 LCA721	100	GHS05, GHS06, GHS08, GHS09
APC500	COD	0 - 150 mg/L O_2	Dichromate		ISO 15705	LCA704 LCA721	100	GHS05, GHS06, GHS08, GHS09
APC400	COD	0 - 1000 mg/L O_2	Dichromate		ISO 15705	LCA703 LCA720	100	GHS05, GHS06, GHS08, GHS09
APC339	Nitrate	0.23 - 13.5 mg/L NO_3-N	2.6-Dimethylphenol		DIN 38405 D9-2, ISO 23696-1	LCA703 LCA721	100	GHS02, GHS05, GHS07
APC340	Nitrate	5 - 35 mg/L NO_3-N	2.6-Dimethylphenol		DIN 38405 D9-2, ISO 23696-1	LCA704 LCA720	100	GHS02, GHS05
APC341	Nitrite	0.015 - 0.6 mg/L NO_2-N	Diazotisation		EN ISO 26777, DIN 38405 D10	LCA707	100	GHS07
APC342	Nitrite	0.6 - 6.0 mg/L NO_2-N	Diazotisation		EN ISO 26777, DIN 38405 D10	LCA709	100	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, ISO23697-1	LCA709 LCA721	50	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, ISO23697-1	LCA700	50	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, ISO23697-1	LCA708 LCA720	50	GHS02, GHS05, GHS07, GHS08
APC348	Phosphate / Phosphate, ortho	0.5 - 5.0 mg/L PO_4-P	Phosphormolybdenum Blue	■	EN ISO 6878-1-1986, DIN 38405 D11-4	LCA700 LCA707	100	GHS05, GHS07, GHS08
APC349	Phosphate / Phosphate, ortho	0.05 - 1.5 mg/L PO_4-P	Phosphormolybdenum Blue	■	ISO 6878-1-1986, DIN 38405 D11-4	LCA704 LCA709 LCA721	100	GHS05, GHS07, GHS08
APC350	Phosphate / Phosphate, ortho	2 - 20 mg/L PO_4-P	Phosphormolybdenum Blue	■	ISO 6878-1-1986, DIN 38405 D11-4	LCA703 LCA708 LCA720	100	GHS05, GHS07, GHS08

Hazard code descripions: see page 13

APC chemistries are available for the popular wastewater parameters. They are perfectly adapted to the way the AP3900 works. In addition many standard LCK Cuvette Tests can also be analysed with the robot, e.g. Surfactancts, Permanganate Index, Organic Acids, Formaldehyde, Free Cyanide or Chloride. Contact your local Hach expert to learn more.

DR6000 UV-VIS Spectrophotometer

Combining quality and efficiency in the professional laboratory.

The DR6000 UV-VIS spectrophotometer delivers top performance for both routine laboratory tasks and demanding photometry applications.

The DR6000 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.

For technical data see Quick Reference Guide on page 24

Your Benefits

- Improved laboratory efficiency – more than 240 pre-programmed methods directly available
- Comparable and reliable results – with the approved LCK 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

Order Information

Part number	Description	
LPV441.99.00011	DR6000 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	LOC100 RFID set for sample identification	The set contains: 1 RFID locator LOC100, 15 sample RFID tags in 5 colours, 5 location RFID tags and 2 operator RFID tags.
LZV566	USB barcode hand-scanner	For automatic identification (ProID) of norm and individual barcodes.
LQV157.99.30001	SIP10 Sipper set for DR6000 with 1 cm quartz cell	Sipper set for flow through applications in UV range.
LQV157.99.20001	SIP10 Sipper set for DR6000 with 1 inch round cell	Sipper for pour through applications. With dual path length 1 inch/cm round cell, USB cable and pump tubing.
LZV935	DR6000 application software for drinking water analysis	The drinking water analysis software LZV935 is a compilation of all spectrophotometric applications that are relevant for drinking water analysis.
LZV936	DR6000 application software for brewery analysis	The brewery analysis software LZV936 is a compilation of all spectrophotometric applications that are relevant for brewery analysis.
LZV937	DR6000 application software for enzymatic food analysis	The software LZV937 is a compilation of enzymology tests manufactured by R-Biopharm AG, Darmstadt that can be performed with spectrophotometer DR6000 and carousel insert LZV902.99.00001.
LZV938	Remote operating software	The operating software for the photometer allows the instrument to be controlled remotely using a PC.
LZV902.99.00001	Carousel holder 7 x 1 cm for DR6000	Cell holder with 7 positions to measure mini series or enzymatic methods.
LZV902.99.00011	Carousel holder 5 x 1 inch for DR6000	Cell holder with 5 positions to measure mini series or enzymatic methods.
LZV537	Validation filter kit for spectrophotometer	For validation of DR spectrophotometers. Consists of filters for checking the absorbance accuracy, stray light, and wavelength accuracy. Designed for use with the standard 10 mm cell holder.
A23778	Replacement halogen bulb	
A23792	Replacement deuterium bulb	

Carousel holder for 10 mm cuvettes, e.g. for enzymology tests

Test filter set for internal quality control and validation of DR spectrophotometers. Consists of filters for checking the absorbance accuracy, stray light, and wavelength accuracy.

DR3900 VIS Spectrophotometer

Accuracy from start to finish

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

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.

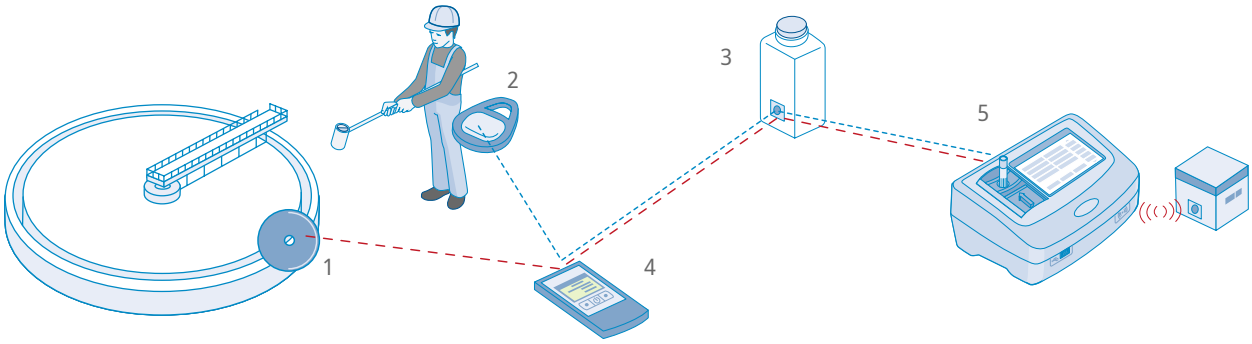
For technical data see Quick Reference Guide on page 24

Your Benefits

- 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 with Link2sc: Adjustment of process on-line value and lab reference
- Data transfer is simple via USB or Ethernet

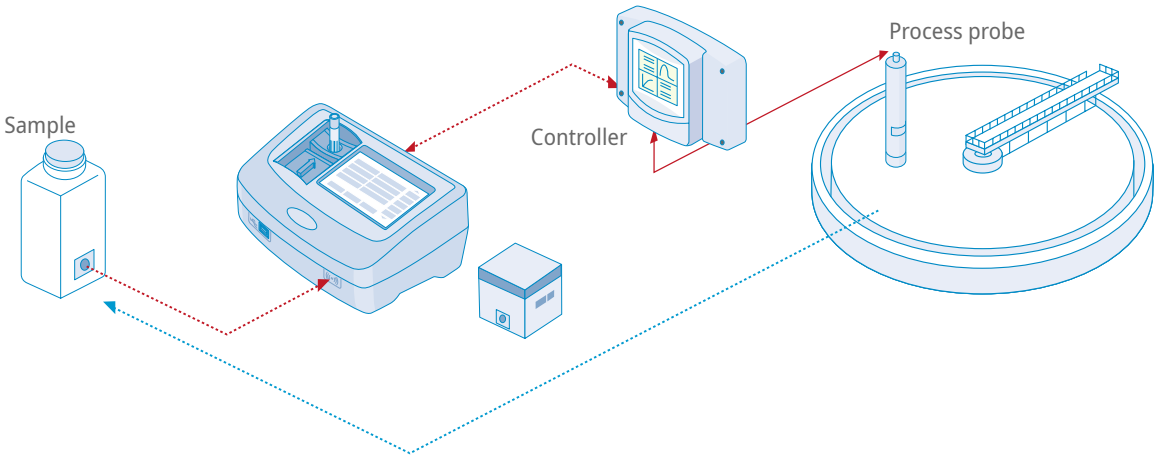
During the rotating ten times measurement process using the IBR+ barcode reader, the DR3900 immediately picks up all the information on the cuvette.

Accurate transfer of sample data using RFID



The LOC100 RFID locator (4) transfers the data associated with the sample location (1) and user RFID tags (2) to the sample RFID tag (3). RFID technology uses tags as data carriers. The DR3900 Spectrophotometer (5) automatically reads the sample data from the sample RFID tag (3); sample location, sampler taker, date, time etc.

Adjust and calibrate using Link2sc



1. Take the sample; enter a job using the controller
2. The job (process measurement value, time etc) is sent to the DR3900 in the laboratory via Ethernet.
3. The reference sample is analysed at the laboratory using a cuvette test and the photometer; it is then compared with the process result.
4. The data from the laboratory is returned to the controller via Ethernet and the process probe is adjusted (where necessary).

Order Information

Part number	Description	
LPV440.99.00001	DR3900 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	DR3900 RFID spectrophotometer / LOC100 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	LOC100 RFID set for sample identification	The set contains: 1 RFID locator LOC100, 15 sample RFID tags in 5 colours, 5 location RFID tags and 2 operator RFID tags.
LZV566	USB barcode hand-scanner	For automatic identification (ProID) of norm and individual barcodes.
LQV157.99.10001	SIP10 Sipper set for DR3900 with 1 inch round cell	Sipper for pour through applications with spectrophotometer DR3900. With dual path length 1 inch/cm round cell, USB cable and pump tubing.
LPZ440.99.00007	Replacement halogen bulb	

DR1900 Portable VIS Spectrophotometer

For reliable measurements wherever you are

Whatever you need to measure, the DR1900 Spectrophotometer provides accurate results. Wherever you need to measure, this robust, portable device is always to hand.

Portable and reliable

The DR1900 combines the wide range of parameters and the accuracy of spectral measurement with the flexibility of a portable solution for measurements in the field.

- For officially recognised results
- Battery powered
- Lighter than comparable devices

Reliable and flexible in all applications

- Wavelength range: 340 – 800 nm
- For all common cuvette sizes
- For wastewater, drinking water, surface water or industrial water and quality controls

Robust and practical for all situations

The portable DR1900 combines the highest level of accuracy for everyday use. The housing, made from shock-proof and impact-resistant plastic, offers a non slip surface. The buttons are large and robust, so every touch hits its target.

Your Benefits

- 220+ pre-programmed methods
- 50 freely programmable user applications
- Intuitive and user friendly
- Very robust in the field and in the laboratory
- Protection class IP67
- Compact dimensions and lightweight
- Available with optional outdoor backpack

For technical data see Quick Reference Guide on page 24

Order Information

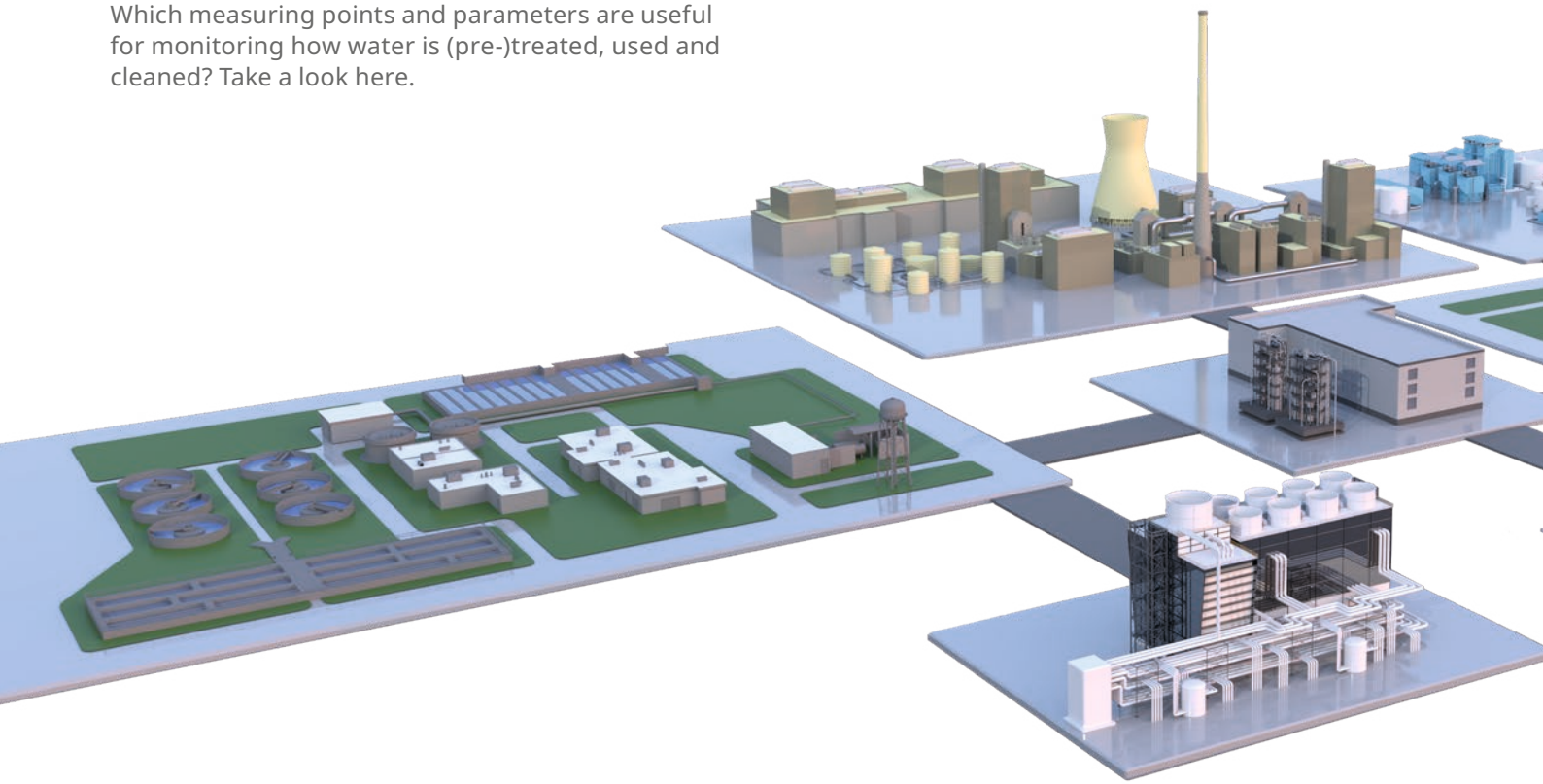
Part number	Description	
DR1900-02L	DR1900 Portable Spectrophotometer	Includes: portable spectrophotometer, printed basic instrument manual, dust cover, 1-inch square matched glass sample cells, AA alkaline batteries 4/pk, and a four-type adapter set
2990700	Backpack for portable metersm	The adjustable divider system allows you to create customised compartments to organise equipment just the way you like it.
LZV537	Validation filter Kit	For validation of DR spectrophotometers. Consists of filters for checking the absorbance accuracy, stray light, and wavelength accuracy. Designed for use with the standard 10 mm cell holder.
LZV804.99.00001	Power Module for DR1900	The Power Module with universal power supply allows the instruments to connect to line power.
LZV813.99.00001	USB + Power Module for DR1900	This module adds further functionality to the instrument allowing the user to transfer data, operate the instrument on line power (100-240 VAC, 50-60 HZ) and Charge NiMH batteries (2971304), perform firmware updates, quickly enter Sample and User IDs with the optional barcode scanner (LZV566).
LZV566	USB barcode hand-scanner	For automatic identification (ProID) of norm and individual barcodes.

Please note: LCK Cuvette Test evaluation possible, but without barcode reading & 10 fold measurement feature.

Hach Water Analysis Solutions

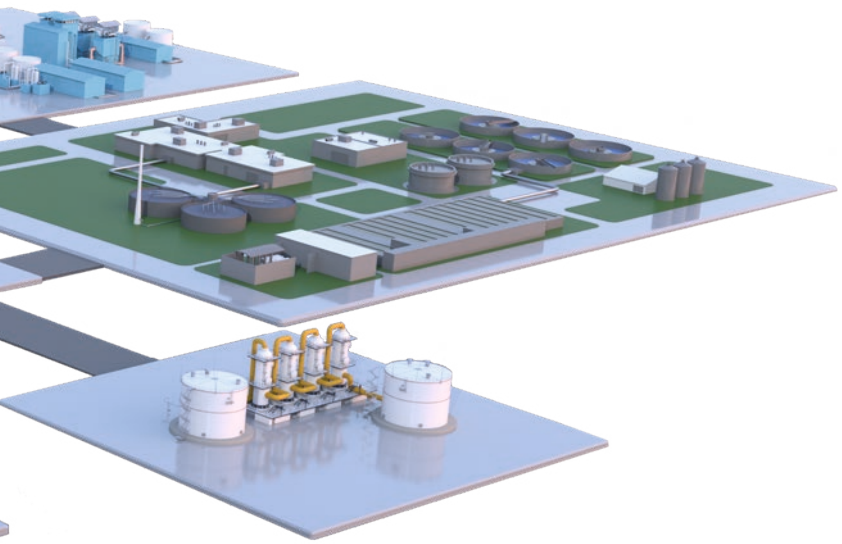
For municipal treatment & industrial water cycles

Which measuring points and parameters are useful for monitoring how water is (pre-)treated, used and cleaned? Take a look here.



Parameter	Process steps	Analysis
Absorption	5	
Alkalinity	1, 2, 3, 6, 11	
Aluminum	1, 2, 3	
Ammonium	1, 4, 11	
Ammonium/Monochloramine (only UK)	2	
Automatic Sampling	1, 7, 8, 11	
Chloride	3, 4, 6, 9, 10	
Chlorine	1, 2, 3, 6, 11	
Chlorine Dioxide	2	
COD Baseline Monitoring	7, 8	
Color	5, 7, 8	
Conductivity	2, 6, 7, 8, 9, 10, 11	
Corrosion Parameters (Iron, Copper)	3, 4	
Cyanide	9, 10	
Degassed Conductivity	3, 4	
Disinfectants (Chlorine, Chlorine Dioxide, Ozone)	7, 8	
Dissolved Hydrogen	3	
Dissolved Oxygen	1, 2, 3, 4, 6, 11	
Fluoride	9, 10	
Hardness	1, 3, 6	

Parameter	Process steps	Analysis
Iron	1	
Manganese	1	
Microbial Load (ATP)	1, 2, 6, 7, 8	
Molybdenum	6	
Nitrate	1, 11	
Oil in Water	1, 3, 4, 7, 8	
Organic Acids	11	
ORP / Redox	1, 2, 4, 6, 11	
Oxygen Scavengers	3, 4, 6	
Ozone	2	
Permanganate	2	
pH / Temperature	1 - 11	
Phosphate	2, 3, 4,11	
Production plant specific contaminations: event / baseline monitoring	7, 8	
Production specific quality control parameters (e.g. salt, Bitter Units, own methods)	5	
SAC	1, 2	
Silica	3, 4, 6	
Sludge Level	1, 2, 11	
Sodium	3, 4,6	



Process steps

1 Source Water Intake
2 Source Water Processing & Treatment
3 Pure & Ultra-Pure Water Treatment & Polishing
4 Hot Water, Steam & Power Generation
5 Environmental, production line & Quality Control laboratories
6 Cooling Water Conditioning / Make Up Water
7 Cooling Water Return
8 Condensate Return
9 Production Wastewater Discharge & Wastewater Pretreatment
10 Sewer Management
11 Biological Wastewater Treatment Plant

Parameter	Process steps	Analysis
Specific & Cationic Conductivity	3, 4, 6	
Specific Conductivity	1, 2, 3, 4, 6, 10	
Sulfate	10	
Sulfide	7, 8, 9, 10	
Suspended Solids	2, 11	
TOC	1, 2, 3, 4, 6, 9, 10, 11	
TOC / VOC baseline	7, 8	
TOC / COD / BOD	11	
TOC / SAC	11	
Total Nitrogen	11	
Total Phosphorus	6, 11	
Toxicity	7, 8, 11	
Trace Metals (Copper, Nickel, Aluminum...)	6, 7, 8, 10	
Turbidity	1, 2, 3, 4, 5, 6, 8, 9, 10, 11	
UV Transmission	2	
RTC-C/DC	2, 6	
RTC-CNP	11	
RTC-DAF	9	
RTC-N (for Ammonium)	11	
RTC-N/DN (for Nutrients)	11	

Parameter	Process steps	Analysis
RTC-P (for Phosphate)	11	
RTC-SD (for Suspended Solids)	11	
RTC-ST (for Suspended Solids)	11	

Laboratory analysis solution

Online process analysis solution

Hach Environmental Centre

Responsible disposal – helping users and the environment

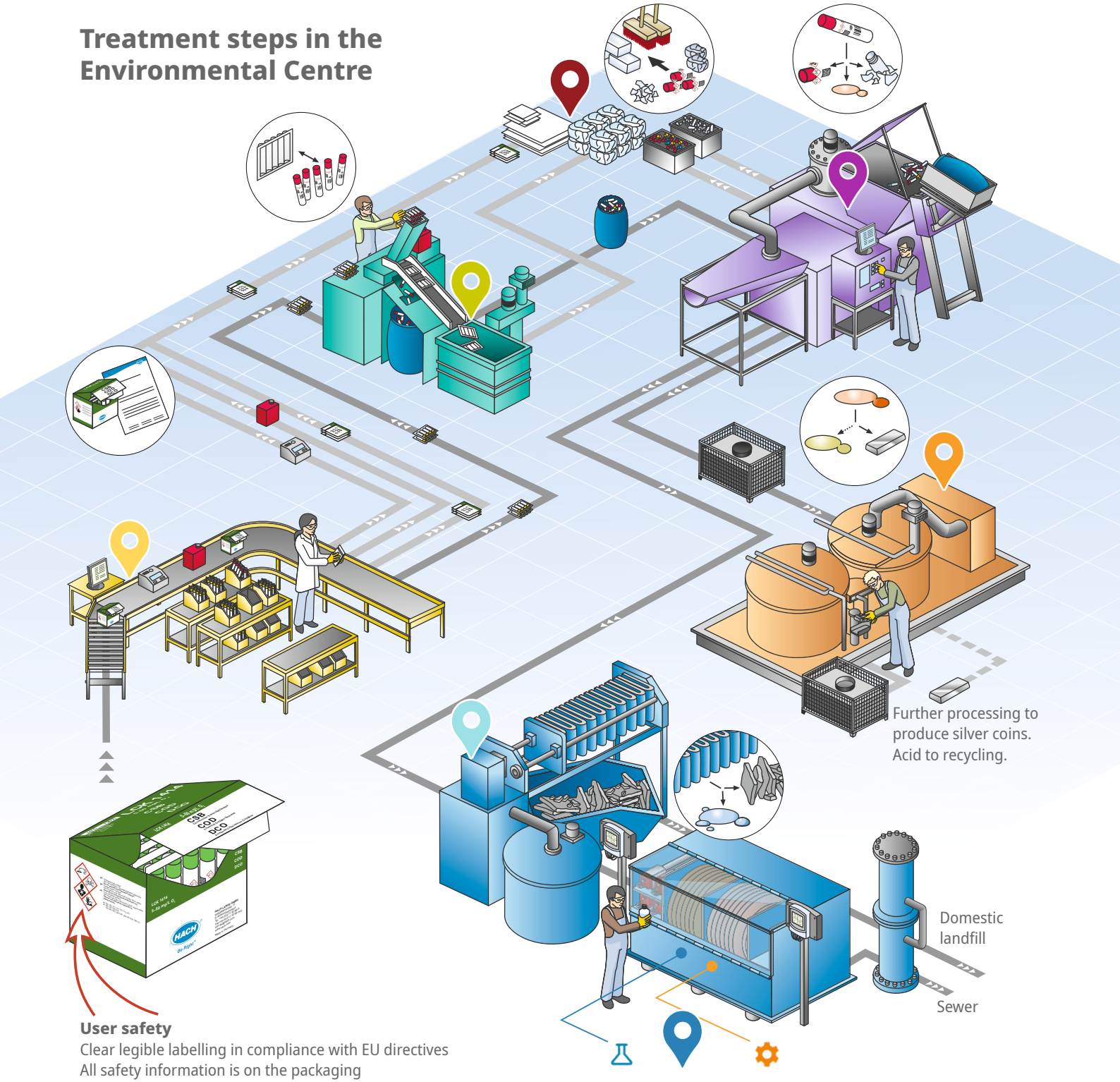
Investment in the environment is one of our top priorities. Used reagents and instruments are professionally recycled at the Hach Environmental Centre in Germany.

Hach has been offering free take-back of used reagents since 1978. In 1998, the Dusseldorf Environmental Centre was amongst the first companies in Germany to be certified as a specialist waste management company. Since then, the certification has been successfully repeated every year.

Visitors welcome! Reach out to arrange a tour whenever you are visiting Dusseldorf!

	Area	Description
	Registration & sorting	Checking of incoming deliveries Organising disposal certificates Separating cardboard, canisters and electronic materials Sorting used reagents into treatment groups
	Separation	Sorting of plastic blisters and glass cuvettes
	Recycling of packing material	Glass recycled for building materials industry Cardboard boxes reused Folding boxes recycled PE bottles become new granulate Plastic blisters become films and brush bristles
	Cuvette shredder	Crushing of cuvettes Separation of reagents Separation of plastic (label, lid) and glass
	Electrolysis	Wastewater free process for COD reagents Separation of acids Processing of amalgam to silver and mercury
	Wastewater Treatment	Detoxification and neutralisation Biological AOX elimination Activated charcoal filtration
	Wastewater Analysis	Laboratory Analysis: COD, TOC, AOX, Ammonium, Phosphate, Cyanide, Sulphide, Sulphate, Silver, Chromium, Mercury Online analyis: Dissolved Oxygen, pH, Temperature, Ammonium, Nitrate, Level

Treatment steps in the Environmental Centre



User safety
Clear legible labelling in compliance with EU directives
All safety information is on the packaging
The cuvette serves as transport, reaction, measurement and disposal vessel

Visit for our website for more details.
uk.hach.com/support/service/environmental-centre

DR900 Multi-Parameter Colorimeter

Pre-programmed with 90 Hach Methods.

The handheld colorimeter allows for quick and easy access to your most frequently 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 storage and a built-in USB port for the easy transfer of information. The portable colorimeter also helps satisfying core testing needs by offering at least 90 of the most common testing parameters.

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

For technical data see Quick Reference Guide on page 25

Your Benefits

- 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

Order Information

Part number	Description	
9385200	DR900 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, DR800 and DR900 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

DR300 Single Parameter Colorimeter

Proven past. Accurate and fast.

The DR300 maintains the Hach Pocket Colorimeter legacy of reliability with a more user friendly design.

Reliable

For decades, Hach has continued to provide premium chemistries and colorimetry instrumentation, providing dependable, accurate measurements.

Simple

Simple, intuitive operation reduces potential manual error, ensuring accurate measurement data you can trust, time after time. Larger display with improved backlight makes reading measurements in all conditions even easier.

Durable

Rugged, waterproof (IP67) design withstands whatever conditions you encounter in the field or on the road (drops, extreme temperatures, rain and dirt).

For technical data see Quick Reference Guide on page 25

Order Information

Part number	Description
LPV445.99.00110	DR300 Pocket Colorimeter, Chlorine, Free + Total
LPV445.99.01110	DR300 Pocket Colorimeter, Bromine
LPV445.99.02110	DR300 Pocket Colorimeter, Nitrate
LPV445.99.03110	DR300 Pocket Colorimeter, Dissolved Oxygen
LPV445.99.04110	DR300 Pocket Colorimeter, Ozone
LPV445.99.06110	DR300 Pocket Colorimeter, Phosphate
LPV445.99.09110	DR300 Pocket Colorimeter, Zinc
LPV445.99.10110	DR300 Pocket Colorimeter, Molybdenum, LR/HR
LPV445.99.12110	DR300 Pocket Colorimeter, Chlorine & pH
LPV445.99.15110	DR300 Pocket Colorimeter, Manganese, HR
LPV445.99.16110	DR300 Pocket Colorimeter, Iron, TPTZ
LPV445.99.22110	DR300 Pocket Colorimeter, Iron, Ferrover
LPV445.99.25110	DR300 Pocket Colorimeter, Aluminium
LPV445.99.26110	DR300 Pocket Colorimeter, Monochloramine/Free Ammonium
LPV445.99.40110	DR300 Pocket Colorimeter, Ammonium
LPV445.99.51110	DR300 Pocket Colorimeter, Chlorine Dioxide
LPV445.99.62110	DR300 Pocket Colorimeter, Chlorine, Free + Total, MR
Wavelength-specific DR300 Pocket Colorimeters. Program custom methods and calibrations on two channels.	
LPV445.99.50110	DR300 Pocket Colorimeter, 500 nm
LPV445.99.52110	DR300 Pocket Colorimeter, 528 nm
LPV445.99.60110	DR300 Pocket Colorimeter, 600 nm

Portable Parallel Analysers

SL1000 and SL250 with Chemkey tests

The Portable Parallel Analyser (PPA) performs common water tests with less than half the manual steps. It produces highly accurate results with less opportunity for errors in a fraction of the time and allows for up to six parameters to be tested simultaneously.

Less variability

Avoid manual steps that can introduce variability, even when performed by experienced testers. Automation and internal temperature control make the entire process consistent and repeatable, while applying the same processes and reagents as current Hach methods.

Less headache

A single instrument combines colorimetric and electro-chemical testing in a field Kit that requires fewer bulky accessories. There are no powder pillows or glass vials to handle. All chemicals and processes are entirely contained inside the Chemkey.

Faster testing

Perform up to four colorimetric and two probe-based measurements in parallel, and complete the entire test suite in 25 % of the time. Improve efficiency by completing more tests on site with faster results.

Chemkey technology

Chemkey reagents contain the same chemicals and execute the same process steps that you have trusted for decades – now delivered in a simple, self-contained package.

For technical data see Quick Reference Guide on page 25

SL1000 (left) with four Chemkey ports and SL250 with one Chemkey port. Both additionally feature two connectors for Intellical probes.

SL1000 in carrying case

Chemkey Reagents

Part number	Parameter	Measuring Range	Number of tests	SL250	SL1000
9429000	Free Chlorine	0.04 - 4.00 mg/L Cl_2	25	■	■
8499300	Free Chlorine	0.04 - 4.00 mg/L Cl_2	300	■	■
9429100	Total Chlorine	0.04 - 10 mg/L Cl_2	25	■	■
8499400	Total Chlorine	0.04 - 10 mg/L Cl_2	300	■	■
9429400	Monochloramine	0.04 - 4.00 mg/L Cl_2	25	■	■
9429600	Ammonia, Free; Monochloramine	Free Ammonia: 0.05 - 0.50 mg/L NH_3-N Monochloramine: 0.04 - 4.00 mg/L Cl_2	50		■
9429300	Nitrite	0.005 - 0.600 mg/L NO_2-N	25	■	■
9425200	Total Ammonia	0.05 - 1.50 mg/L NH_3-N	25	■	■
8791900	Ammonia, Free & Total; Monochloramine	Free Ammonia: 0.05 - 0.50 mg/L NH_3-N Total Ammonia: 0.05 - 1.50 mg/L NH_3-N Monochloramine: 0.04 - 4.00 mg/L Cl_2	50		■
9429200	Copper	0.06 - 5.00 mg/L Cu	25	■	■
8636000	Dissolved Iron	0.05 - 3.00 mg/L Fe	25	■	■
8636100	Alkalinity, HR	200 - 700 mg/L $CaCO_3$	25	■	■
8636200	Alkalinity, LR	20 - 200 mg/L $CaCO_3$	25	■	■
8636300	Hardness	90 - 750 mg/L $CaCO_3$	25	■	■
8636400	Hardness	3 - 100 mg/L $CaCO_3$	25	■	■
8636500	Orthophosphate	2.0 - 30.0 mg/L PO_4	25	■	■
8636600	Orthophosphate	0.20 - 4.00 mg/L PO_4	25	■	■
8635200	Peracetic Acid	0.04 - 50.0 mg/L PAA	25	■	■
9759000	pH	pH 6.3 - 9.0	25	■	■
9878000	Fluoride	0.10 - 4.0 mg/L F	25	■	■
3007000	Manganese, HR	0.10 - 25.0 mg/L Mn	25	■	■
9879000	Zinc	0.10 - 6.0 mg/L Zn	25	■	■

Order Information

Part number	Description
LPV443.99.10002	SL1000 Portable Parallel Analyser (PPA) Includes: SL1000 meter, carrying case, 1 instrument sample cup, 2 electrode sample cups, rechargeable battery, battery charger, hand strap, instrument manual, and USB cable.
LPV443.99.20002	Full SL1000 Portable Parallel Analyser (PPA) Kit Includes basic instrument package plus: 1 pH electrode, 1 conductivity electrode and 1 box each of Free Chlorine, Total Chlorine, Monochloramine, Nitrite and Free Ammonia Chemkeys
LPV443.99.11002	SL250 Single-Port Portable Parallel Analyser (PPA) with carrying case, 250 V power cables and manual
9427900	Chlorine Verification Chemkey
9436800	System Verification Chemkey
9374200	Car charger for SL1000/SL250

HT200S High Temperature Thermostat

Fast and cost effective digestion in 15 minutes

Fast sample digestion saves time and money

No more long waiting times during sample digestion! The HT200S, with its high-speed digestion (HSD) technology, meets the need for fast, effective digestion in municipal, industrial and service laboratories.

The HT200S needs only minutes for heating and cooling. The actual analyses can start after just 35 minutes, immediately after removal from the thermostat. The pure digestion time is only 15 minutes. The HT200S can also be used as a standard thermostat and for users' own applications.

Your Benefits

- Saves time in the analysis of COD, Total Nitrogen, Total Phosphorus, and heavy metals
- Automatic fast cooling
- Variable digestion time and temperature for special digestions
- COD results in just 35 minutes

The special construction of the HT200S allows fast heating and cooling times for up to twelve cuvettes or reaction vessels.

Technical data

Heating programmes	Pre-programmed for 100 °C, HT and COD mode and freely selectable 40-170 °C, 5-240 min
User programmes	9 free temperature/time
Heating rate	from 20 °C to 148 °C in 8 minutes
Temperature stability	± 1 °C in conformity with EN, ISO, EPA methods
Operating temperature range	10 - 45 °C
Max. operating humidity	90 %
Number of cuvettes	12
Power supply	230 V +5 %/-15 %, 50 Hz, 1300 VA
Dimensions (H x W x D)	330 mm x 300 mm x 430 mm
Weight	10 kg

Subject to change without notice.

Order Information

Part number	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	

LT200 Thermostat

For standard and special digestions

The LT200 thermostat ideally complements the Hach cuvette test system. Two separately controllable heating blocks enable cuvettes and reaction vessels to be digested at identical or different temperatures and time settings.

The LT200 has a digital timer with an automatic switch-off and acoustic signal. Two transparent splash protection lids close the thermostat while it is heating. The integrated anti-overheating feature and the insulated external shell provide additional safety.

Your Benefits

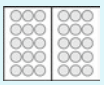
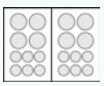
- Great flexibility
- Excellent reproducibility
- Simple to use

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
User programmes	6 free temperature/time
Heating rate	from 20 to 148 °C in 10 minutes
Temperature stability	± 1 °C in conformity with EN, ISO, EPA methods
Operating temperature range	10 - 45 °C
Max. operating humidity	90 %
Number of cuvettes	Depending on model
Power supply	115 V - 230 V +5 %/-15 %, 50 - 60 Hz, 900 VA max
Dimensions (H x W x D)	145 mm x 250 mm x 310 mm
Weight	2.8 kg

Subject to change without notice.

Order Information

Part number	Description	Schematic
LTV082.99.21002	LT200-2 Dry thermostat with 2 blocks, 15 x 13 mm, 6 x 13 mm / 4 x 20 mm	
LTV082.99.23002	LT200-2 Dry thermostat with 2 blocks, 15 x 13 mm, 15 x 13 mm	
LTV082.99.51002	LT200-2 Dry thermostat with 2 blocks, 6 x 13 mm and 4 x 20 mm per block	
LTV082.99.10002	LT200-1 Dry thermostat with 1 block, 9 x 13 mm / 2 x 20 mm	

Cuvettes

Quick Reference Guide

Part number	Optical path length	Material	Volume / package size	DR 300	DR 900	DR 1900	DR 3900	DR 6000
LCW906	13 mm round	Glass	25 pcs 7 mL, with rubber caps			■	■	■
LZP045	10 mm rectangular	Glass	3 pcs 3.5 mL			■	■	■
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					■
LZM381	50 mm rectangular	Plastic	20 pcs, with cap				■	■
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				■	■
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		■	■	■	■
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					■

DR300: Single Parameter Colorimeter, DR900: Multi-Parameter Colorimeter, DR1900, DR3900: VIS Spectrophotometer, DR6000: UV-VIS Spectrophotometer

SIP10 Sipper

For pour through applications

Part number	Description		DR 3900	DR 6000	Lico 690	TL 23xx	TU 5200
LQV157.99.00001	SIP10 Sipper for DR3900	Basic instrument without accessories.	■				
LQV157.99.10001	SIP10 Sipper Set for DR3900 with 1 inch round cell	With dual path length 1 inch/cm round cell, USB cable and pump tubing.	■				
LQV157.99.20001	SIP10 Sipper Set for DR6000 with 1 inch round cell	With dual path length 1 inch/cm round cell, USB cable and pump tubing.		■			
LQV157.99.30001	SIP10 Sipper Set for DR6000 with 1 cm quartz cell	For applications in UV range. With 1 cm flow through cell, quartz.		■	■		
LQV157.99.60002	SIP10 Sipper Pump for TL23 Series Turbidimeter					■	
LQV157.99.50001	SIP10 Sipper, sample pump set for TU5200 plus process head						■

DR3900: VIS Spectrophotometer, DR6000: UV-VIS Spectrophotometer, Lico 690: Colour Colorimeter, TL23 Series & TU5200: Turbidimeter

Electrochemistry

Meters, probes and calibration solutions for laboratory and field use

The Hach 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 has your answer.

Smart Intellical probes

Standard lab probes and rugged field probes are available to measure a wide variety of parameters such as pH, Dissolved Oxygen (DO), Conductivity, Fluoride, Sodium, etc.

All Intellical probes are automatically recognised by HQ/HQD meters and maintain calibration data on the probe itself – eliminating the need of recalibration when switching probes between meters.

Red Rod Technology

For high volume labs or applications where performance is critical, Intellical Red Rod pH electrodes incorporate proven technology to deliver superior accuracy and response times, even when measuring challenging samples over a wide temperature range. Several probes use speciality designs for specific measurement applications.

ISO 17034 Standards

Hach Lange GmbH is accredited by the German accreditation authority DAkkS as registered reference material producer according to DIN EN ISO 17034:2017. Compared to ISO 17025, ISO 17034 has an additional requirement for reliable and traceable manufacturing of products. With that, those standards deliver the highest level of quality assurance possible to provide full confidence to the user.

pH Buffer Solutions

Certified pH buffer solutions

DIN EN ISO 17034:2017 Certified Reference Material (CRM) IUPAC Standard Solution, supplied in airtight aluminium bag, 2 years shelf life. Certificate of Analysis for exact pH buffer value.

Part number	Description
S11M001	IUPAC, pH 1.679 ±0.010 at 25°C, 500 mL
S11M002	IUPAC pH 4.005 ±0.010 at 25°C, 500 mL
S11M003	IUPAC pH 6.865 ±0.010 at 25°C, 500 mL
S11M004	pH 7.000 ±0.010 at 25°C, 500 mL
S11M005	IUPAC pH 7.413 ±0.010 at 25°C, 500 mL
S11M006	IUPAC pH 9.180 ±0.010 at 25°C, 500 mL
S11M007	IUPAC pH 10.012 ±0.010 at 25°C, 500 mL
S11M008	IUPAC pH 12.45 ±0.05 at 25°C, 500 mL

Quality buffer solutions

Ready-to-use, in bottles, with and without colour coding

Part number	Description
2283449.99	pH 4.01 Red, 500 mL
2283549.99	pH 7.00 Yellow, 500 mL
2283649.99	pH 10.01 Blue, 500 mL
2947600	Buffer Solution Kit, colour-coded, pH 4.01, 7.00, 10.01, 500 mL
1222349	pH 4.01 No colour code, 500 mL
1222249	pH 7.00 No colour code, 500 mL
1222149	pH 10.01 No colour code, 500 mL
S11M009	pH 1.09 Technical buffer solution (DIN 19267)
S11M010	pH 4.65 Technical buffer solution (DIN 19267)
S11M011	pH 9.23 Technical buffer solution (DIN 19267)

Singlet buffer solutions

Individually sealed airtight pouches, colour coded, 25 mL/pouch

Part number	Description
2770020	Singlet Single use pH buffer solution, pH 4.01, 20 pcs
2770120	Singlet Single use pH buffer solution, pH 7.00, 20 pcs
2770220	Singlet Single use pH buffer solution, pH 10.01, 20 pcs
2769920	Singlet Single use pH buffer Kit, pH 4.01 & 7.00, pk/2x10
2769820	Singlet Single use pH buffer Kit, pH 7.00 & 10.01, pk/2x10

Conductivity Standard Solutions

Certified conductivity standards

DIN EN ISO 17034:2017 Certified Reference Material (CRM) conductivity, supplied in airtight aluminium bag, 2 years shelf life. Certificate of Analysis for exact conductivity value.

Part number	Description
S51M001	KCl 1 D, 111.3 mS/cm ±0.5 %, 500 mL
S51M002	KCl 0.1 D, 12.85 mS/cm ±0.35 %, 500 mL
S51M003	KCl 0.01 D, 1408 µS/cm ±0.5 %, 500 mL
S51M004	NaCl 0.05 %, 1015 µS/cm ±0.5 %, 500 mL

Quality standard solutions

Ready-to-use, in bottles

Part number	Description
	KCl Solutions
C20C250	KS 910 KCl 0.1 M, 12.88 mS/cm, 500 mL
C20C270	KS 920 KCl 0.01 M, 1.413 mS/cm, 500 mL
C20C280	KS930 KCl 0.001 M, 146.9 µS/cm, 500 mL
	NaCl Solutions
1440042	491 mg/L as NaCl, 1000 ±10 µS/cm, 100 mL
2307542	85.47 mg/L as NaCl, 180 ±10 µS/cm, 100 mL
210542	1000 mg/L as NaCl, 1990 ±20 µS/cm, 100 mL
2307442	10246 mg/L as NaCl, 18000 ±50 µS/cm, 100 mL

Singlet standard solutions

Individually sealed airtight pouches, 25 mL/pouch

Part number	Description
2771320	Singlet Single use conductivity standard, 147 µS/cm, 20 pcs
2771420	Singlet Single use conductivity standard, 1413 µS/cm, 20 pcs
2771520	Singlet Single use conductivity standard, 12.88 mS/cm, 20 pcs

Beakers for electrode calibration

Part number	Description
SM5013	Blue, 30 mL, pk/80
SM5012	Yellow, 30 mL, pk/80
SM5011	Red, 30 mL, pk/80
SM5014	Green, 30 mL, pk/80
SM5010	Colourless, 30 mL, pk/80
LZW9110.98	Printed flasks for pH calibration 3x 50 mL
LZW9111.99	Printed flasks for conductivity calibration 3x 50 mL

HQD Benchtop Meters

HQD meters connect with digital Intellical probes and automatically recognise the testing parameter, calibration history and method settings to minimise errors and setup time.

Your Benefits

- Instrument guided calibration procedures
- Calibration data stored in the probe.
- Probe specific method settings for regulatory compliance and Good Laboratory Practice (GLP).
- Sample ID and Operator ID for data traceability
- Durable, robust design to withstand years of use

	HQ411D pH/mV Meter	HQ430D Single input, multi-parameter Meter	HQ440D Dual input, multi-parameter Meter
Temperature	■	■	■
pH	■	■	■
mV	■	■	■
Conductivity		■	■
TDS		■	■
Salinity		■	■
Resistivity		■	■
Dissolved Oxygen Luminescent (LDO) BOD Sensor (with LDO)		■ ■	■ ■
ORP/Redox	■	■	■
Ammonia		■	■
Ammonium		■	■
Chloride		■	■
Fluoride		■	■
Nitrate		■	■
Sodium		■	■
Enclosure rating	IP54	IP54	IP54
Internal result storage capacity	500*	500*	500*
Sensor Inputs	1	1	2
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
GLP features	■	■	■
PC data transfer software	Included	Included	Included
Backlight	■	■	■
Battery requirements (optional)	4, AA	4, AA	4, AA
AC and USB operation	■	■	■

*Expanded storage with external USB storage device.

Subject to change without notice.

HQ Series Portable Meters

The HQ Series is for water quality professionals who want to perform electrochemical analysis for field and lab environments.

The portable platform will allow you to collect intuitive, accurate measurements, manage data, and easily review results, while supplying an IP67 robustness rating.

Your Benefits

- Instrument guided calibration procedures
- Calibration data stored in the probe.
- Sensors designed for every application.
- Durable, robust design to withstand years of use

	HQ1110 pH/ORP 1 Channel	HQ1130 DO 1 Channel	HQ1140 EC/TDS 1 Channel	HQ2100/2200 Multi 1 - 2 Channels	HQ4100/4200/4300 Multi/ISE 1 - 3 Channels
Temperature	■	■	■	■	■
pH	■			■	■
mV	■			■	■
Conductivity			■	■	■
TDS			■	■	■
Salinity			■	■	■
Resistivity			■	■	■
Dissolved Oxygen (LDO)		■		■	■
BOD (with LDO)		■		■	■
ORP/Redox	■			■	■
Ammonia					■
Ammonium					■
Chloride					■
Fluoride					■
Nitrate					■
Sodium					■
Enclosure rating	IP67**	IP67**	IP67**	IP67**	IP67**
Data storage	5000 data points	5000 data points	5000 data points	10000 data points	100000 data points
Sensor Inputs	1	1	1	HQ2100: 1 HQ2200: 2	HQ4100: 1 HQ4200: 2 HQ4300: 3
Data export via USB	■	■	■	■	■
Display type	536x336 Mono-TFT, backlight	536x336 Mono-TFT, backlight	536x336 Mono-TFT, backlight	640x480 Colour-TFT, backlight	640x480 Colour-TFT, backlight
GLP features	■	■	■	■	■
Weight**	519 g	519 g	519 g	519 - 541 g	530 - 570 g

** with battery compartment installed

Subject to change without notice.

All HQ Portable models are available as meter only or as bundles complete with probes and accessories in a transport box. Visit our website for more details and additional accessories.

Intellical Probes: pH




	pH Laboratory	pH Rugged Outdoor	pH Laboratory	pH Laboratory
Special feature	Double junction reference	Double junction reference	For semi-solid media/samples	General purpose. Clean water samples.
Application	Clean & Dirty Samples	Clean & Dirty Samples	Piercing / Semi-Solids	Clean Samples
Electrode type	Non-Refillable Gel Reference Element	Non-Refillable Gel Reference Element	Non-Refillable Gel Reference Element	Non-Refillable Gel Reference Element, semi-liquid gel
Measuring range	pH 2 - 14	pH 2 - 14	pH 2 - 12	pH 0 - 14
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature range	0 - 50 °C	0 - 50 °C	0 - 60 °C	0 - 80 °C
Dimensions (D x L)	12 mm x 175 mm	46 mm x 223 mm	6 mm x 182 mm	12 mm x 175 mm
Sensor type	pH Glass	pH Glass	pH Glass	pH Glass
Sensor material	Epoxy	Zeonor/ Stainless Steel	Stainless Steel	Epoxy
Reference system	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl (double junction)
Junction	Open Junction	Open Junction	Porous Pin & Open Junctions	Porous Pin Junction
Filling solution	-	-	-	-
Part number	**PHC10101**	**PHC10105**	**PHC10801**	**PHC20101**




	pH Laboratory	pH Laboratory	pH Laboratory	pH Laboratory
Special feature	Double junction reference	Double junction reference		High-alkalinity samples
Application	Low Ionic Strength & Dirty Samples	Clean & Dirty Samples	High Performance (-10 to 100 °C)	High Performance/ High Alkalinity
Electrode type	Refillable Reference Element	Refillable Reference Element	RedRod / Refillable Reference Element	RedRod / Refillable Reference Element
Measuring range	pH 0 - 14	pH 0 - 14	pH 0 - 14	pH 0 - 14
Accuracy	±0.02 pH	±0.02 pH	±0.01 pH	±0.01 pH
Temperature range	0 - 50 °C	0 - 50 °C	-10 - 100 °C	0 - 100 °C
Dimensions (D x L)	12 mm x 175 mm	12 mm x 175 mm	12 mm x 200 mm	12 mm x 200 mm
Sensor type	pH Glass	pH Glass	pH Glass	pH Glass
Sensor material	Zeonor	Zeonor	Glass	Glass
Reference system	Ag/AgCl	Ag/AgCl	Red Rod	Red Rod
Junction	Open Junction	Porous Pin Junction	Porous Pin Junction	Porous Pin Junction
Filling solution	2.44 M KCl solution (#2965026)	3 M KCl solution saturated with AgCl (#2841700)	Saturated KCl (#25118026)	Saturated KCl (#25118026)
Part number	**PHC28101**	**PHC30101**	**PHC70501**	**PHC705A01**

Intellical Probes: pH & ORP




	pH Laboratory	pH Laboratory	pH Laboratory	pH Laboratory
Special feature	Low Ionic Strength Media	Surface Measurements	Dirty Media	Clogging Media
Application	Low Ionic Strength & Dirty Samples - Annular Ring	Surface measurement	Very Dirty Samples	Extremely Dirty Samples
Electrode type	RedRod / Refillable Reference Element	RedRod / Refillable Reference Element	RedRod / Refillable Reference Element / High Flow	RedRod / Refillable Reference Element / High Flow
Measuring range	pH 0 - 14	pH 0 - 12	pH 0 - 14	pH 0 - 14
Accuracy	±0.01 pH	±0.01 pH	±0.01 pH	±0.01 pH
Temperature range	-10 - 100 °C	-10 - 100 °C	-10 - 100 °C	-10 - 100 °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
Sensor type	pH Glass	pH Glass	pH Glass	pH Glass
Sensor material	Glass	Glass	Glass	Glass
Reference system	Red Rod	Red Rod	Red Rod	Red Rod
Junction	Annular Junction	Annular Junction	Annular Junction, High Flow	Reverse Sleeve Junction
Filling solution	Saturated KCl (#25118026)	Saturated KCl (#25118026)	Saturated KCl (#25118026)	Saturated KCl (#25118026)
Part number	**PHC72501**	**PHC72901**	**PHC73501**	**PHC74501**




	pH Laboratory	ORP Laboratory	ORP Rugged Outdoor	ORP Laboratory
Special feature		Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.
Application	High Performance (0 to 80 °C)			
Electrode type	RedRod / Refillable Reference Element	Non-Refillable Gel Reference Element	Non-Refillable Gel Reference Element	Refillable Reference Element
Measuring range	pH 0 - 14	±1200 mV	±1200 mV	±1200 mV
Accuracy	±0.02 pH	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater
Temperature range	0 - 80 °C	0 - 80 °C	0 - 80 °C	0 - 80 °C
Dimensions (D x L)	12 mm x 200 mm	12 mm x 175 mm	46 mm x 223 mm	12 mm x 175 mm
Sensor type	pH Glass	Platinum disc	Platinum disc	Platinum disc
Sensor material	Glass	Epoxy	Epoxy / Stainless Steel	Epoxy
Reference system	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Porous Pin Junction	Open Junction	Open Junction	Porous Pin Junction
Filling solution	3 M KCl (#2756559)	-	-	3 M KCl solution saturated with AgCl (#2841700)
Part number	**PHC80501**	**MTC10101**	**MTC10105**	**MTC30101**

Intellical Probes: O_2 & Conductivity

	Dissolved Oxygen (DO) Laboratory	Dissolved Oxygen (DO) Rugged Outdoor	BOD Laboratory
Special feature			Integrated stirring system
Application			
Electrode type	Luminescent Dissolved Oxygen	Luminescent Dissolved Oxygen	Luminescent Dissolved Oxygen
Measuring range	0.05 - 20.0 mg/L (ppm) 1 - 200 % saturation	0.05 - 20.0 mg/L (ppm) 1 - 200 % saturation	0.05 - 20.0 mg/L (ppm) 1 - 200 % saturation
Accuracy	±0.1 mg/L from 0 to 8 mg/L ±0.2 mg/L for greater than 8 mg/L	±0.1 mg/L from 0 to 8 mg/L ±0.2 mg/L for greater than 8 mg/L	±0.05 mg/L from 0 to 10 mg/L ±0.1 mg/L for greater than 10 mg/L
Temperature range	0 - 50 °C	0 - 50 °C	0 - 50 °C
Dimensions (D x L)	29 mm x 191 mm	46 mm x 223 mm	15.875 mm x 215 mm
Sensor type	Lumiphore	Lumiphore	Lumiphore
Sensor material	Polycarbonate / ABS	Polycarbonate / ABS / Stainless Steel	Polycarbonate / ABS
Part number	**LDO10101**	**LDO10105**	**LBOD10101**

	Conductivity Laboratory	Conductivity Rugged Outdoor
Special feature		
Application		
Electrode type	Conductivity Cell; 4 Poles - Graphite	Conductivity Cell; 4 Poles - Graphite
Measuring range	Conductivity: 0.0 µS/cm - 200 mS/cm TDS: 0.00 mg/L - 50.0 g/L as NaCl Salinity: 0 - 42 ppt or ‰ Resistivity: 2.5 Ωcm - 49 MΩcm	Conductivity: 0.0 µS/cm - 200 mS/cm TDS: 0.00 mg/L - 50.0 g/L as NaCl Salinity: 0 - 42 ppt or ‰ Resistivity: 2.5 Ωcm - 49 MΩcm
Accuracy	Cond: ±0.5 % of reading TDS: ±0.5 % ±1 digit Salinity: ±0.1, ±1 digit	Cond: ±0.5 % of reading TDS: ±0.5 % ±1 digit Salinity: ±0.1, ±1 digit
Temperature range	-10 - 110 °C	-10 - 110 °C
Dimensions (D x L)	15 mm x 184 mm	46 mm x 223 mm
Sensor type	4-poles conductivity probe, Graphite, k = 0.40 cm^{-1}	4-poles conductivity probe, Graphite, k = 0.40 cm^{-1}
Sensor material	Noryl	Noryl / Stainless Steel
Part number	**CDC40101**	**CDC40105**

Probe cable length
Standard cable length for laboratory probes is 1m, for the BOD probe it is 1.8 m. For some probes there is a 3 m option available.

Standard cable length for Rugged Outdoor probes is 5 m. Additionally there are 10 m, 15 m or 30 m options available.

Intellical Probes: ISE



	Ammonia	Ammonium	Chloride
Special feature	Easy-to-replace membrane modules.	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.
Application			
Electrode type	Non-Refillable Gel Reference Element, Replaceable membrane	Non-Refillable Dritek Gel Reference Element	Non-Refillable Dritek Gel Reference Element
Measuring range	0.01 mg/L ($5x10^{-7}$ M) - 14 g/L (1 M) as NH_3-N	0.018 mg/L (10^{-6} M) - 9 g/L (0.5 M) as Ammonium	0.1 mg/L ($3x10^{-6}$ M) - 35.5 g/L (1 M) Chloride
Accuracy	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater
Temperature range	5 - 50 °C	0 - 50 °C	5 - 50 °C
Dimensions (D x L)	12 mm x 175 mm	12 mm x 175 mm	12 mm x 175 mm
Sensor type	pH Glass with replaceable NH_3 sensitive membrane	Solid-state PVC membrane	Solid-state crystal membrane
Sensor material	Epoxy	Epoxy	Epoxy
Reference system	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Double Annular Junction	Double Junction (ceramic Porous Pin and annular porous PTFE)	Double Junction (ceramic Porous Pin and annular porous PTFE)
Filling solution	0.1 M NH_4Cl (#4447226)	-	-
ISA required	Ammonia ISA (#4447169)	Ammonium ISA (#2980699)	Chloride ISA (#2318069)
Part number	**ISENH318101**	**ISENH418101**	**ISECL18101**



	Fluoride	Nitrate	Sodium
Special feature	Dry storage & fast response time. No replacement membranes.	Dry storage & fast response time. No replacement membranes.	
Application			
Electrode type	Non-Refillable Dritek Gel Reference Element	Non-Refillable Dritek Gel Reference Element	Refillable Reference Element
Measuring range	0.01 mg/L ($5x10^{-7}$ M) - 19 g/L (1 M) Fluoride	0.1 mg/L ($7x10^{-6}$ M) - 14 g/L (1 M) NO_3-N	0.023 mg/L ($1x10^{-6}$ M) - 23 g/L (1 M) Na^+
Accuracy	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater	±0.02 mV or 0.05 %, whichever is greater
Temperature range	5 - 50 °C	0 - 50 °C	0 - 50 °C
Dimensions (D x L)	12 mm x 175 mm	12 mm x 175 mm	12 mm x 175 mm
Sensor type	Solid-state crystal membrane	Solid-state PVC membrane	pH Glass
Sensor material	Epoxy	Epoxy	Zeonor
Reference system	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Annular Junction (PTFE)	Double Junction (ceramic Porous Pin and annular porous PTFE)	Double Porous Pin Junction
Filling solution			0.02 M NH_4Cl (#2965126)
ISA required	Fluoride ISA (#258999)	Nitrate ISA (#2984799)	Sodium/Potassium ISA (#4451569)
Part number	**ISEF12101**	**ISENO318101**	**ISENA38101**

Pocket Pro⁺ Testers

Perfect in field use

Pocket Pro and Pocket Pro⁺ Testers measure electro-chemical parameters in a broad range of water applications. The series offers convenient portable solutions for pH, ORP, conductivity, TDS, salinity, and temperature, delivering accurate results you can be confident in.

The Hach Pocket Pro⁺ Testers take the value a step further with replaceable sensors, powerful backlight, and multi-parameter tester options.

	Pocket Pro⁺ pH	Pocket Pro⁺ ORP	Pocket Pro⁺ Multi 1	Pocket Pro⁺ Multi 2
Parameter	pH, Temp	ORP, Temp	Conductivity, TDS, Salinity, Temperature	pH, Conductivity, TDS, Salinity, Temperature
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; 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
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
Part number	**9532000**	**9532100**	**9532700**	**9532800**
Replacement sensor	9532001	9532101	9532701	9532801

Subject to change without notice.

Visit our website for additional models.

Accessories

Sensor maintenance & HQ Series accessories

Proper electrode maintenance, storage and first use, ensures faster measurements, optimum accuracy and extend the lifetime of the electrode.

Electrode cleaning solutions

Part number	Description	GHS Hazard Code
2965249	Electrode Cleaning Solution for Regular Maintenance, 500 mL	GHS05
S16M001	Electrode Cleaning solution, RENOVO.N, for Clean Water Samples, 250 mL	GHS05
S16M002	Electrode Cleaning solution, RENOVO.X, extra strong, 250 mL	GHS07
C20C370	Electrode Cleaning Solution for Proteins/Organics Samples, KS400, 250 mL	GHS05
2975149	Electrode Cleaning Solution for Minerals/Inorganic Samples, 500 mL	GHS05
C20C380	Electrode Cleaning Solution for Porous Pin/Diaphragm Junction, 250 mL	GHS05, GHS08

Electrode storage + filling solutions

Part number	Description	GHS Hazard Code
2756559	pH Storage Solution (3M Potassium Chloride), 50 mL	-
2965026	Filling Solution, Reference, 2.44 M KCl, 59 mL	-
2841700	Filling Solution, Reference, 3 M KCl with AgCl, 28 mL	-
25118026	Filling Solution, Reference, Saturated KCl, 59 mL	-
4447226	Filling Solution, ISENH3181, 0.1 M NH_4Cl, 50 mL	-
2965126	Filling Solution, ISENa381, 0.02 M NH_4Cl, 59 mL	GHS05, GHS07

GHS hazard code descriptions: see page 13

Intellical + HQ Series accessories

Part number	Description
8508850	Universal probe stand
5818400	Intellical Colour coded electrode clips. Ten clips of five different colours per package.
5828610	Intellical Electrode cable depth markers for rugged probes. Five markers per package.
5825900	Replacement Shroud Kit for rugged probes: Replacement Polymer shroud Kit. Includes protective bell and locking ring.
5811200	Sensor Cap Replacement for LDO sensor
5838000	LBOD101 Sensor Cap Replacement Kit
5850800	Replacement stirrer assembly for Intellical LBOD101 Probe
5812711	Replacement membrane modules for Intellical Ammonia ISE, 3 pcs
LEZ015.99.A001A	Portable HQ Series Standard Field Case for Standard Probes
LEZ015.99.A002A	Portable HQ Series Field Case for Rugged Probes with Extended Cable Lengths
LEZ015.99.A003A	Kick Stand and Hand Strap for Portable HQ Series Meter
LEZ015.99.A004A	Protective Glove for Portable HQ Series Meter
LEZ015.99.A005A	Wrist Strap and Dust Plugs for Portable HQ Series Meter


8508850


5818400


5828610


LEZ015.99.A002A


LEZ015.99.A004A

Titralab AT1000 Series

Automatic Titration without all the complications

Titration can be easy. The Titralab AT1000 uses pre-set functions that eliminate complex programming and provide accurate results. The Karl Fischer version Titralab KF1000 requires only small sample quantities to deliver accurate and precise results for water content applications.

A Titralab system is composed of two elements: The application package and the titrator. The titrator is delivered preassembled for quick setup, and the application package includes all specific elements to make it quick and easy for anyone to set up and operate a test without need for any complex programming.

Your Benefits

- Reliable titration results: Eliminates operator interpretation and manual processes with automatic titration to quickly deliver accurate and repeatable results.
- Pre-programmed titration methods detect end points and eliminate manual calculations to make results easier to achieve without advanced programming.
- Simple setup and titration: Application-specific functions to eliminate complex titration setup and analysis. Hach's unique application Kits make it quick for anyone to set up and operate a test.

Technical data

Titration types	Potentiometric (zero & imposed current), amperometric, colorimetric
Titration modes	Sample, blank, sample with blank, QC sample, QC sample with blank
Parameter	mV/pH, Conductivity, Temperature
Resolution	mV/pH: ±0.1 mV / ±0.001 pH Conductivity: ±0.5 % of reading Temperature: ±0.3 °C
Sample stand	Integrated, magnetic stirring, beakers up to 250 mL
Burette motor resolution	20,000 steps with electronic µstepping technology (128 µsteps/step)
Data storage	Last 100 samples, QC & blank analyses, last 10 calibrations Date, Time, Operator IDs, Sample IDs
Data logger	On USB flash drive, CSV format, Excel compatible
Password Protection	Yes, user defined protected elements
Operating Interface	Soft keypad (silicone)
Power requirements	100 - 240 VAC, 50 - 60 Hz
Dimensions (H x W x D)	220 mm x 400 mm x 360 mm
Weight	4 kg

Subject to change without notice.

Application Packages

	Titrator Model	AT1102	AT1112	AT1122	AT1222	KF1121
	Burette for Titrant	1	1	1	2	1
	Integrated Peristaltic Pump	0	1	2	2	2
	Maximum Number of Applications	5	5	5	10	5
Water Applications						
AP0001.AT1102	pH/Alkalinity in Water	■	■	■	■	
AP0002.AT1102	pH/Alkalinity & Conductivity in Water	■	■	■	■	
AP0003.AT1112	Ca & Mg Hardness (ISE) in Water		■	■	■	
AP0005.AT1222	pH/Alkalinity & Hardness (ISE) in Water				■	
AP0009.AT1112	Chlorides in Water		■	■	■	
Food & Beverage Applications						
AP0008.AT1102	pH, Total Acidity in Food & Beverage	■	■	■	■	
AP0010.AT1112	Salt in Food Products		■	■	■	
AP0011.AT1222	pH, Total Acidity & Chlorides in Food & Beverage				■	
AP0012.AT1122	Free & Total SO_2 in Wine			■	■	
AP0013.AT1222	pH, Total Acidity, Free & Total SO_2 in Wine				■	
Petrochemical Applications						
AP0015.AT1102	TAN (Total Acid Number) in Petrochem	■	■	■	■	
AP0016.AT1102	TBN (Total Base Number) in Petrochem	■	■	■	■	
AP0017.AT1112	R-SH (Thiol) in Petrochem		■	■	■	
AP0018.AT1102	Br_2/I_2 index in Petrochem	■	■	■	■	
Environmental Applications						
AP0006.AT1102	FOS/TAC (Biogas)	■	■	■	■	
AP0007.AT1122	Free & Total Chlorine, Chlorine Dioxide, Sulphite (AUTOCAT)			■	■	
Moisture Content Application (Karl Fischer)						
AP0014.KF1121	Moisture Content (Karl Fischer)					■

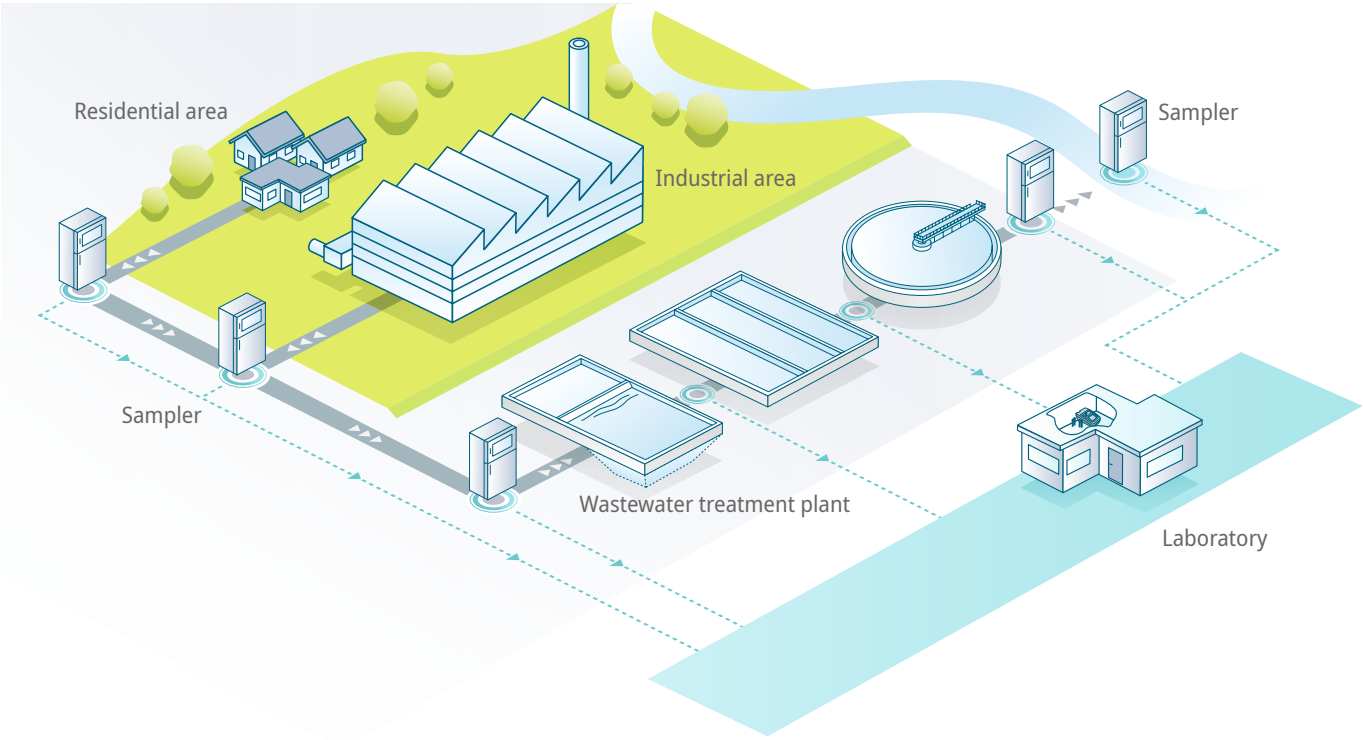
Application Packages for use with Titralab AT1000 Series titrators contain all elements except reagents to make it quick and easy for everyone to set up and operate a test.

The Titralab AS1000 series sample changer is used in connection with AT1000 Series titrators and TM1000 PC Software to automatically perform sample series analyses.

Automatic Samplers

Portable and stationary samplers for consistent analysis

Among the sources of error in analytical results, the impact manual sampling mistakes and incorrect storage and transport temperatures is sometimes underestimated. Automatic samplers help you obtain an accurate and representative sample for subsequent analysis with your Hach laboratory equipment, ultimately leading to accurate reporting.



Typical locations where automated sampling is required are the sewer system, the inlet and outlet of municipal and industrial wastewater treatment plants, plant process stage monitoring and environmental monitoring.

Hach offers the most comprehensive range of samplers available on the market. Our product range encompasses both peristaltic and vacuum pump technologies, steel and PE plastic enclosures, stationary and portable capabilities.

Your benefits

- All samplers conform to ISO 5667.
- Automatic sampling in event, time or flow paced intervals: Difficulties in ensuring that manual sampling is representative often lead to incorrect or incomplete understanding of process effectiveness.
- Various design options promote versatility: Samplers can be installed in situations with extreme conditions, e.g. toxic environments.
- Automatic samplers provide a range of temperatures at which sampling can be performed (-40 °C to 50 °C) and preserved (at 4 °C). Preservation of the collected captured sample is essential for accurate laboratory analysis.
- Various bottle configurations and options in glass or PE available: Flexibility allows the user to ensure that samples are compliant with different regulatory requirements.

Visit our website for more information.

Turbidity Standard Solutions

Ready-to-use primary standards for calibration and/or verification

Stablcal Stabilized Formazin Standards are true formazin dilutions developed for use in any turbidimeter. With proprietary manufacturing technology, Hach prepares Stablcal standards in precise concentrations for conventional turbidimeters. Stablcal standards are equivalent in performance to formazin primary standards, but require no special preparation, saving precious time.

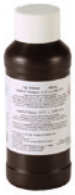
Part number	Description
	Stablcal for TL23 Series
2659902	Stablcal Verification Vial, 10 NTU, for IQ/OQ
2662105	Stablcal Calibration Kit, <0.1/20/200/1000/4000 NTU, sealed vials
2659505	Stablcal Calibration Kit, <0.1/20/200/1000/4000/7500 NTU, sealed vials
2659105	Stablcal Calibration Kit, 1.0/10/100/1000 NTU, sealed vials
	Stablcal Reference Suspensions according to actual edition of the Pharmacopeia for Calibration & Verification
2896642	Primary Opalescent Suspension, 4000 NTU, 100 mL bottle
2896742	Stablcal Reference Suspension I, 3 NTU, 100 mL bottle
2896842	Stablcal Reference Suspension II, 6 NTU, 100 mL bottle
2896942	Stablcal Reference Suspension III, 18 NTU, 100 mL bottle
2897042	Stablcal Reference Suspension IV, 30 NTU, 100 mL bottle
2897200	Stablcal Reference Suspension Set, <0.1/3/6/18/30 NTU, 100 mL bottles
2897100	Stablcal Reference Suspension Set, <0.1/3/6/18/30 NTU, sealed vials
	Stablcal for TU5200, TU5300sc, TU5400sc, sealed vials
LZZ003	Stablcal Verification Vial, 1 NTU, with RFID
LZZ004	Stablcal Verification Vial, 1 NTU, without RFID
LZY877	Stablcal Verification Vial, 10 NTU, with RFID
LZY878	Stablcal Verification Vial, 10 NTU, without RFID
LZY837	Stablcal Calibration Vial, 20 NTU, with RFID
LZY899	Stablcal Calibration Vial, 20 NTU, without RFID
LZY838	Stablcal Calibration Vial, 600 NTU, with RFID
LZY900	Stablcal Calibration Vial, 600 NTU, without RFID
LZZ005	Stablcal primary standards set with RFID, 1/10/20 NTU
LZZ006	Stablcal primary standards set without RFID, 1/10/20 NTU
LZY835	Stablcal primary standards set with RFID, 10/20/600 NTU
LZY898	Stablcal primary standards set without RFID, 10/20/600 NTU
	Stablcal for 2100Q
2961701	Stablcal Verification, 10 NTU, sealed vial
2971205	Stablcal Calibration Kit, 10/20/100/800 NTU, sealed vials
2971210	Stablcal Calibration Kit, 10/20/100/800 NTU, 100 mL bottles
2659405	Stablcal Calibration Kit, <0.1/20/100/800 NTU, sealed vials

Part number	Description
	Stablcal Standard Solutions for Calibration & Verification, bottles
2659742	Stablcal Standard, <0.1 NTU, 100 mL
2723342	Stablcal Standard, 0.10 NTU, 100 mL
2697942	Stablcal Standard, 0.30 NTU, 100 mL
2698042	Stablcal Standard, 0.50 NTU, 100 mL
2659842	Stablcal Standard, 1.0 NTU, 100 mL
2659942	Stablcal Standard, 10 NTU, 100 mL
2660142	Stablcal Standard, 20 NTU, 100 mL
2660242	Stablcal Standard, 100 NTU, 100 mL
2660442	Stablcal Standard, 200 NTU, 100 mL
2660542	Stablcal Standard, 800 NTU, 100 mL
2660642	Stablcal Standard, 1000 NTU, 100 mL
246142	Formazin Standard, 4000 NTU, 100 mL
	Stablcal Ultra Low Range Verification Kit
2714600	Stablcal Verification Kit, 0.1/0.3/0.5 NTU, 100 mL bottles
	Stablcal Kits for Calibration & Verification
2662110	Stablcal Kit, <0.1/20/200/1000/4000 NTU, 100 mL bottles
2659110	Stablcal Kit, 1.0/10/100/1000 NTU, 100 mL bottles
2659410	Stablcal Kit, <0.1/20/100/800 NTU, 100 mL bottles
2659510	Stablcal Kit, <0.1/20/200/1000/4000 NTU, 100 mL bottles, plus 7500 NTU sealed vial

Visit our website for additional options (e.g. 500 mL bottles) and secondary Gelex standards.

GHS Hazard Code

GHS08



Bottle

Sealed vial for portable instruments

Vial for TU Series

Sealed vial kit for benchtop instruments

Turbidimeters

Quick Reference Guide

	TL2310 ISO	TL2360 ISO	TL2300 EPA	TL2350 EPA
Model	LED Turbidimeter	LED Turbidimeter	Tungsten Lamp Turbidimeter	Tungsten Lamp Turbidimeter
Measurement Method	Nephelometric	Nephelometric	Nephelometric	Nephelometric
Regulatory	Meets ISO 7027, DIN EN 27027, DIN 38404 and NFT 9033	Meets ISO 7027, DIN EN 27027, DIN 38404 and NFT 9033	Meets EPA Method 180.1	Meets EPA Method 180.1
Light source	Light-emitting diode (LED) at 860 ± 30 nm	Light-emitting diode (LED) at 860 ± 30 nm	Tungsten filament lamp	Tungsten filament lamp
Measuring range	NTU/FNU: 0 - 1000	0 - 10000 NTU FNU (Ratio on): 0 - 1000 FNU (Ratio off): 0 - 40 FAU (auto range): 20 - 10000 NTU (Ratio on): 0 - 10000 auto decimal NTU (Ratio off): 0 - 40 EBC (Ratio on): 0 - 2450 auto decimal EBC (Ratio off): 0 - 9.8 Absorbance (auto range): 0 - 2.00 Transmittance (%): 1.0 - 100 Degree (mg/L): 0 - 100	NTU (Ratio on): 0 - 4000 NTU (Ratio off): 0 - 40 EBC (Ratio on): 0 - 980 EBC (Ratio off): 0 - 9.8	NTU (Ratio on): 0 - 10000 auto decimal NTU (Ratio off): 0 - 40 EBC (Ratio on): 0 - 2450 auto decimal EBC (Ratio off): 0 - 9.8 Absorbance (auto range): 0 - 1.0 Transmittance (%): 1.0 - 100 Degree (mg /L): 1 - 100
Accuracy	±2 % of reading plus 0.01 FNU/NTU from 0 - 1000 FNU/NTU	FNU: ±2 % of reading plus 0.01 FNU from 0 - 1000 FNU FAU: ±10 % of reading from 20 - 10000 NTU NTU: ±2 % of reading plus 0.01 NTU from 0 - 1000 NTU, ±5 % of reading from 1000 - 4000 NTU, ±10 % of reading from 4000 - 10000 NTU	Ratio on: ±2 % of reading plus 0.01 NTU from 0 - 1000 NTU, ±5 % of reading from 1000 - 4000 NTU based on formazin primary standard Ratio off: ±2 % of reading plus 0.01 NTU from 0 - 40 NTU	Ratio on: ±2 % of reading plus 0.01 NTU from 0 - 1000 NTU, ±5 % of reading from 1000 - 4000 NTU, ±10 % of reading from 4000 - 10000 NTU Ratio off: ±2 % of reading plus 0.01 NTU from 0 - 40 NTU
Repeatability	±1 % of reading or 0.01 FNU/NTU, whichever is greater (under reference conditions)	±1 % of reading or 0.01 FNU/NTU, whichever is greater (under reference conditions)	±1 % of reading or 0.01 NTU, whichever is greater (under reference conditions)	±1 % of reading or 0.01 NTU, whichever is greater (under reference conditions)
Response Time	Signal averaging off: 6.8 seconds / Signal averaging on: 14 seconds (when 10 measurements are used to calculate the average)	Signal averaging off: 6.8 seconds / Signal averaging on: 14 seconds (when 10 measurements are used to calculate the average)	Signal averaging off: 6.8 seconds / Signal averaging on: 14 seconds (when 10 measurements are used to calculate the average)	Signal averaging off: 6.8 seconds / Signal averaging on: 14 seconds (when 10 measurements are used to calculate the average)
Power Supply	100 - 240 VAC, 50/60 Hz	100 - 240 VAC, 50/60 Hz	100 - 240 VAC, 50/60 Hz	100 - 240 VAC, 50/60 Hz
Dimensions (H x W x D)	153 mm x 395 mm x 305 mm	153 mm x 395 mm x 305 mm	153 mm x 395 mm x 305 mm	153 mm x 395 mm x 305 mm
Weight	3.0 kg	3.0 kg	3.0 kg	3.0 kg
Part number	**LPV444.99.00120**	**LPV444.99.00320**	**LPV444.99.00210**	**LPV444.99.00310**

Subject to change without notice.

	2100Q IS ISO	2100Q EPA	TU5200 ISO	TU5200 EPA
Model	Portable Turbidimeter (LED)	Portable Turbidimeter (Thungsten)	Laser Turbidimeter with RFID	Laser Turbidimeter with RFID
Measurement Method	Nephelometric	Nephelometric	Laser	Laser
Regulatory		EPA Method 180.1	DIN EN ISO 7027	EPA
Light source	LED	Tungsten filament lamp	Class 1 laser product, with embedded 850 nm (ISO), max. 0.55 mW (complies with IEC/EN 60825-1 and to 21 CFR 1040.10 in accordance with Laser Notice No. 50)	Class 2 laser product, with embedded 650 nm (EPA 0.43 mW) (complies with IEC/EN 60825-1 and to 21 CFR 1040.10 in accordance with Laser Notice No. 50)
Measuring Range	0 - 1000 FNU	0 - 1000 NTU	0 - 1000 NTU / FNU / TE/F / FTU 0 - 100 mg/L 0 - 250 EBC	0 - 700 NTU / FNU / TE/F / FTU 0 - 100 mg/L 0 - 175 EBC
Accuracy	± 2 % of reading plus stray light from 0 - 1000 FNU	± 2 % of reading plus stray light	±2 % plus 0.01 NTU from 0 - 40 NTU; ±10 % of reading from 40 - 1000 NTU based on Formazin primary standard (at 25 °C)	±2 % plus 0.01 NTU from 0 - 40 NTU; ±10 % of reading from 40 - 1000 NTU based on Formazin primary standard (at 25 °C)
Repeatability	± 1 % of reading or 0.01 FNU whichever is greater	± 1 % of reading or 0.01 NTU, whichever is greater	<40 NTU: Better than 1 % of reading or ±0.002 NTU on Formazin at 25 °C (77 °F), whichever is greater >40 NTU: Better than 3.5 % of reading on Formazin at 25 °C (77 °F)	<40 NTU: Better than 1 % of reading or ±0.002 NTU on Formazin at 25 °C (77 °F), whichever is greater >40 NTU: Better than 3.5 % of reading on Formazin at 25 °C (77 °F)
Response Time	6 s in normal reading mode	6 s in normal reading mode	Signal averaging off: 7 seconds Signal averaging on: 10 seconds (when averaging time is 5 seconds)	Signal averaging off: 7 seconds Signal averaging on: 10 seconds (when averaging time is 5 seconds)
Power Supply	4x AA batteries	4x AA batteries	100 - 240 VAC, 50/60 Hz	100 - 240 VAC, 50/60 Hz
Dimensions (H x W x D)	77 mm x 107 mm x 229 mm	77 mm x 107 mm x 229 mm	195 mm x 409 mm x 278 mm	195 mm x 409 mm x 278 mm
Weight	0.53 kg without batteries	0.53 kg without batteries	2.4 kg	2.4 kg
Part number	**2100QIS01**	**2100Q01**	**LPV442.99.03022**	**LPV442.99.03012**

Subject to change without notice.

Lico Spectral Colorimeter

All important colour scales included in one instrument

The spectral colour measurement of clear liquids is indispensable in many fields and serves as a quality assurance method for solvents, paints and pharmaceuticals. The highest measuring reliability is essential.

Special precision disposable cuvettes save time, costs, sample material and at the same time increase measurement accuracy.

The integrated automatic cuvette recognition reduces the operating steps to a minimum and provides all implemented colour numbers on a paper printout or directly stored on a local network drive with a single measurement.

Your Benefits

- All important colour scales included in one instrument
- Simple integration into the laboratory network through Ethernet connection
- High level of measurement reliability through a comprehensive set of test aids
- Easy handling thanks to automatic cuvette recognition, big touch user interface and disposable cuvettes with only 2-3 mL sample volume

Technical data

Model	Lico 620	Lico 690
Color Scales	Iodine, Gardner, Hazen, ASTM D 156 (Saybolt), ASTM D 1500	Iodine, Gardner, Hazen, ASTM D 156 (Saybolt), ASTM D 1500, CIE-Lab*, dLab*, dE*, HunterLab, European, US and Chinese Pharmacopoeia (EP, USP, CP), ASTM D848 Acid Wash Test, ASTM D1925 Yellowness Index (ASTM D5386), AOCS Cc13e, BS 684 Ly/Lr, ADMI, ICUMSA, EBC, ASBC, Hess-Ives
Memory	400 colour readings	3000 colour readings; 100 colour references; 1000 photometric values; 20 wavelength scans; 20 time scans
Spectral scan	-	■
Sipper (optional)	-	■
Optical System	0° / 180° rectilinear	0° / 180° rectilinear
Wavelength Range	380 nm - 720 nm	380 nm - 720 nm
Part number	**LMV187.99.20001**	**LMV187.99.40001**

Subject to change without notice.

Accessories

Part number	Description
LZM282	Addista Set of 6 certified standard colour solutions
LZM339	Lico test filter set
LZM354	Lico starter set (includes LZM282, 10 sample cells of each 11 mm and 50 mm)
LZM369	Adapter for cuvettes Z (Lico 6xx)
LYY621	Round cuvettes, 11 mm, glass, 560 pcs
LZP045	Rectangular cuvettes, 10x10 mm, glass, 3 pcs
LYY214	Rectangular cuvettes, 10x10 mm, plastic, 1000 pcs

Part number	Description
LZM130	Rectangular cuvettes, 50x10 mm, plastic, 50 pcs
LZM381	Rectangular cuvettes with cap, 50x10 mm, plastic, 20 pcs
LZM368	Replacement cell compartment, 50 mm rectangular
LQV157.99.30001	SIP10 Sipper set, 1 cm, Quartz

QP1680 TOC/TN Analysers

High-temperature analyser for TOC/TN

Your Benefits

- Direct sample injection eliminates sample contact with valves and the built-in injection syringe, which minimizes the risk of sample carry-over.
- Large diameter sample aspiration tubing can handle particles up to 800 µm, expanding possible applications and reducing clogging.
- Integrated stirrer for each sample position homogenizes particle-containing samples before injection.
- Small footprint with integrated 65-position auto-sampler requires less space in the laboratory (an auto-sampler with 96 positions is also available as an alternative).
- Simple operation, data analysis and system diagnosis thanks to an intuitive software package.

Technical data

	QP1680-TOC	QP1680-TOC/TN_b	QP1680-TN_b
Oxidation method	Catalytic combustion at 680 °C	Catalytic combustion at 720 °C	Catalytic combustion at 720 °C
Measurement method	NDIR (non-dispersive Infrared Detection)	TOC: NDIR, TN: Chemiluminescence	Chemiluminescence
Analysis time	Approx. 3 minutes	Approx. 4 minutes	Approx. 3 minutes
Measuring range	TC, TIC, NPOC: 0 - 30000 mg/L	TC, TIC, NPOC, TN_b: 0 - 30000 mg/L	TN_b: 0 - 30000 mg/L
Detection limit	TC, TIC, NPOC: 50 µg/L	TC, TIC, NPOC: 50 µg/L, TN_b: 20 µg/L	TN_b: 20 µg/L
Norms	TOC / NPOC: ASTM D7573, EN 1484, EPA 415.1, EPA 9060A, ISO 8245, SM 5310B, NEN-ISO 20236	TOC / NPOC: ASTM D7573, EN 1484, EPA 415.1, EPA 9060A, ISO 8245, SM 5310B, NEN-ISO 20236; TN_b: ASTM D8083, EN 12260, ISO 11905-2, NEN-ISO 20236	TN_b: ASTM D8083, EN 12260, ISO 11905-2, NEN-ISO 20236
Power supply	100 - 240 VAC, 50/60 Hz, 16 A	100 - 240 VAC, 50/60 Hz, 16 A	100 - 240 VAC, 50/60 Hz, 16 A
Dimensions (H x W x D)	440 mm x 380 mm x 700 mm	440 mm x 380 mm x 700 mm	440 mm x 380 mm x 700 mm

Subject to change without notice.

Order Information

Part number	Description
LPV448.99.00001	QP1680 TOC Analyser, with auto sampler, 65 positions
LPV448.99.00501	QP1680 TOC Analyser, with auto sampler, 96 positions
LPV448.99.01001	QP1680 TOC/TN_b Analyser, with auto sampler, 65 positions
LPV448.99.01501	QP1680 TOC/TN_b Analyser, with auto sampler, 96 positions
LPV448.99.02001	QP1680 TN_b Analyser, with auto sampler, 65 positions
LPV448.99.02501	QP1680 TN_b Analyser, with auto sampler, 96 positions
SMKIT500000	QP1680 TOC/TN_b Starter Package
SMKIT501000	QP1680 Consumables Kit, 2500 analysis
SMKIT501100	QP1680 Consumables Kit, 5000 analysis
SMKIT501200	QP1680 Consumables Kit, 10000 analysis

Part number	Description
SMSYS503000	Solids Module for QP1680 TOC/TNb Analyser
SMKIT503000	Solids Module Starter Package for QP1680 TOC/TN_b

Instrument Service

Service Partnership for all Laboratory Instruments

With Hach Service you have a global partner with a strong local presence who understands your needs and cares about delivering timely, high-quality service you can trust.

Our Technical Support, Field Service, and Central Service Teams work together with unique expertise to help you maximise instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk. All at a fixed annual cost that eliminates unplanned expenses.

Your Benefits

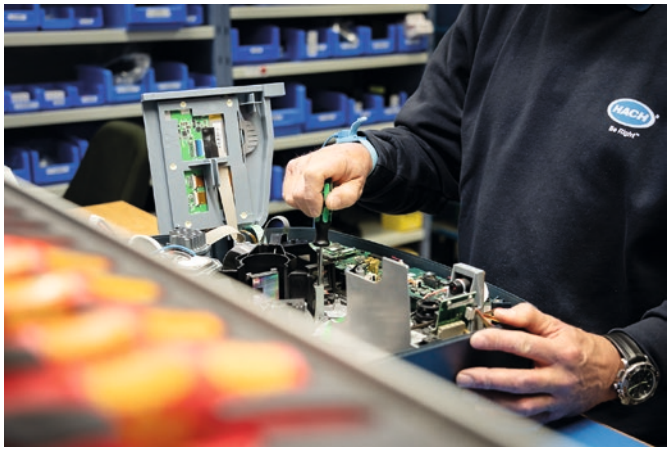
- Maximise instrument uptime
- Ensure data integrity
- Maintain operational stability
- Reduce compliance risk
- Eliminate unplanned expenses

Service Plans Overview

Whether you have portable instruments or bigger, more complex lab equipment, Hach has a service, maintenance, and repair plan to get you covered. Depending on your instruments and your individual circumstances, you can choose from maintenance and repairs done at your location or in our service centre.

		Protection Plus	Central Maintenance Service	Field Plus Service	Central Plus Service	Premium Plus Service	Warranty Plus Service
Establish Performance	Commissioning						■
	Calibration/ Certification		■	■	■	■	■
Extend Performance	Routine Maintenance		■	■	■	■	■
	Repair	■			■	■	■
Elevate Performance	Advanced Maintenance		■	■	■	■	■
Parts included	Wear Parts		■	■	■	■	
	Spare Parts	■			■	■	■
Service Location	On Site*			■		■	■
	Hach Service Centre	■	■		■		

*Specific instruments must be shipped to the Hach Service Centre for repair.



Discover the benefits of Central Plus Service

Hach offers a wide range of service contracts, such as Central Plus Service Program, that can fully cover your instrument, offering you peace of mind and solutions tailored to you.

It is ideal for laboratory and portable instruments and a great option if you are looking for the most economical full-coverage plan.

Here are few highlights:

- Maintenance, calibration, and certification service at the Hach Service Centre
- Full coverage for repairs at the Hach Service Centre
- Free loaner instruments during service (subject to availability)
- Priority 3-business-day turnaround (not including shipping time)
- Shipping cost included
- Routine and advanced maintenance included so you know your instruments is well looked after
- Wear parts and spare parts included

IQ/OQ: Installation Qualification / Operational Qualification

Do you use your equipment in regulated areas and need equipment qualification (IQ/OQ) within the scope of your standard operating procedures?

We can perform and deliver certificates according to international standards, e.g. FDA (Food and Drug Administration), or GMP (Good Manufacturing Practice).

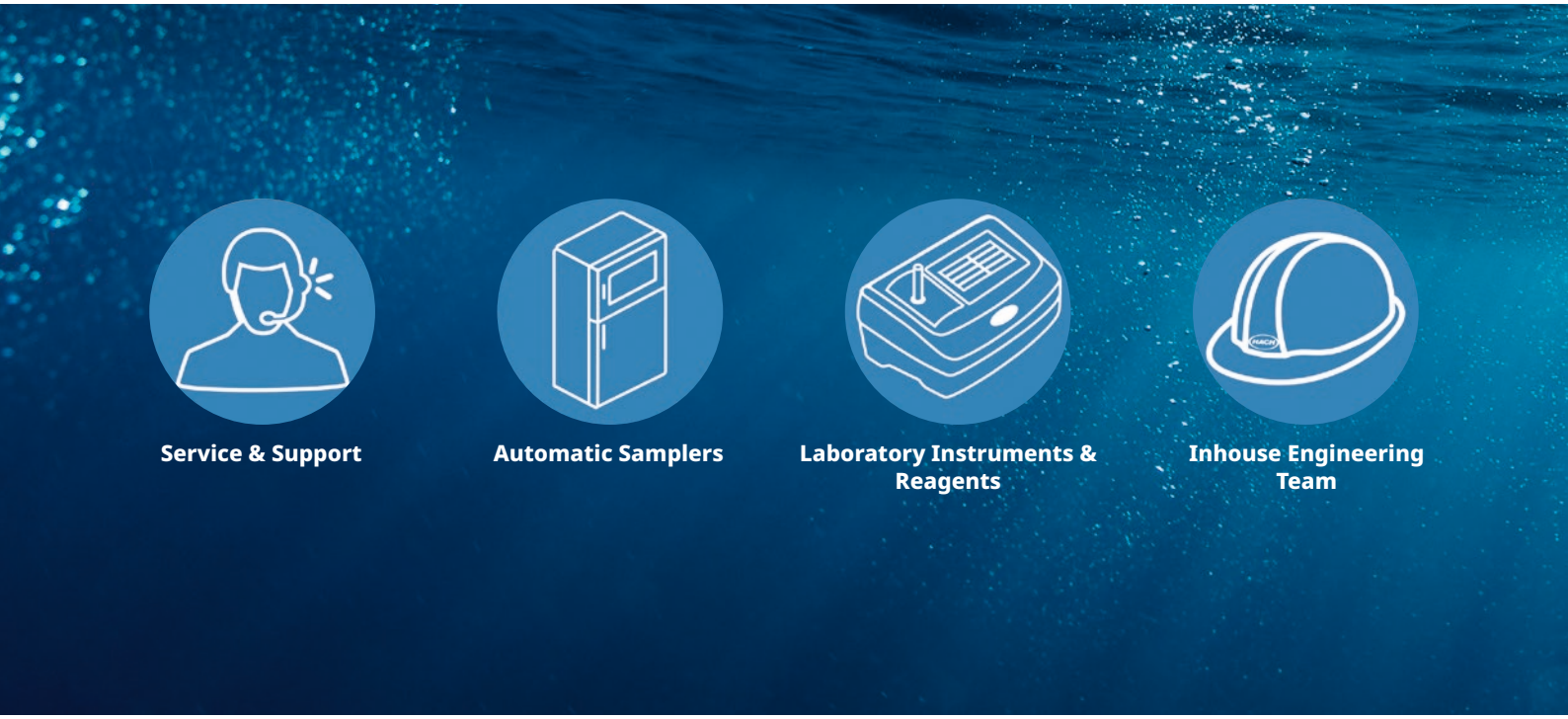
With IQ/OQ from Hach you receive the documented proof, that your instrument works as designed and in the right environment proving correct results.

Visit our website for more details:
uk.hach.com/support/service

Hach Solutions & Services

What is behind it? More than you think.

With Hach, you receive instruments, reagents and services from a single source – offering expertise from development to maintenance. Our experienced team can provide you with expert advice to find the best solution for your application.



From beginning to end

At Hach, we support the use of our solutions throughout their lifecycle, from initial start-up to disposal. Combined with our extensive range of services, we take care of you directly – with locally based professionals.

Various service packages

Hach offers comprehensive service packages to suit customer needs. Our flexible service packages provide the necessary assurance for smooth operation of the instrument to deliver top performance for both routine laboratory tasks to demanding photometry applications.

Area-wide customer support

In over 20 countries in Europe, Hach is represented by its own subsidiaries with a qualified field engineer team, well-trained service technicians, and an experienced support team on the hotline. Available by phone and e-mail, we offer experienced employees who speak your language and will be glad to help.

Your benefits:

- Expert advice from the first contact until long after purchase
- Detailed needs analysis for your situation and operation requirements
- Complete knowledge of regional specific needs
- Solutions to meet the requirements of your industry
- Results that will ensure quality and save time
- Round Robin tests for LCK Cuvette parameters
- Certified buffers and standard solutions
- Proficiency test
- Hazard information
- Customer trainings (in person or online)
- Maintenance and repair service by factory-trained, certified technicians

Hach E-Shop

Gain more time for essentials! Registered Hach users experience the following online ordering benefits:

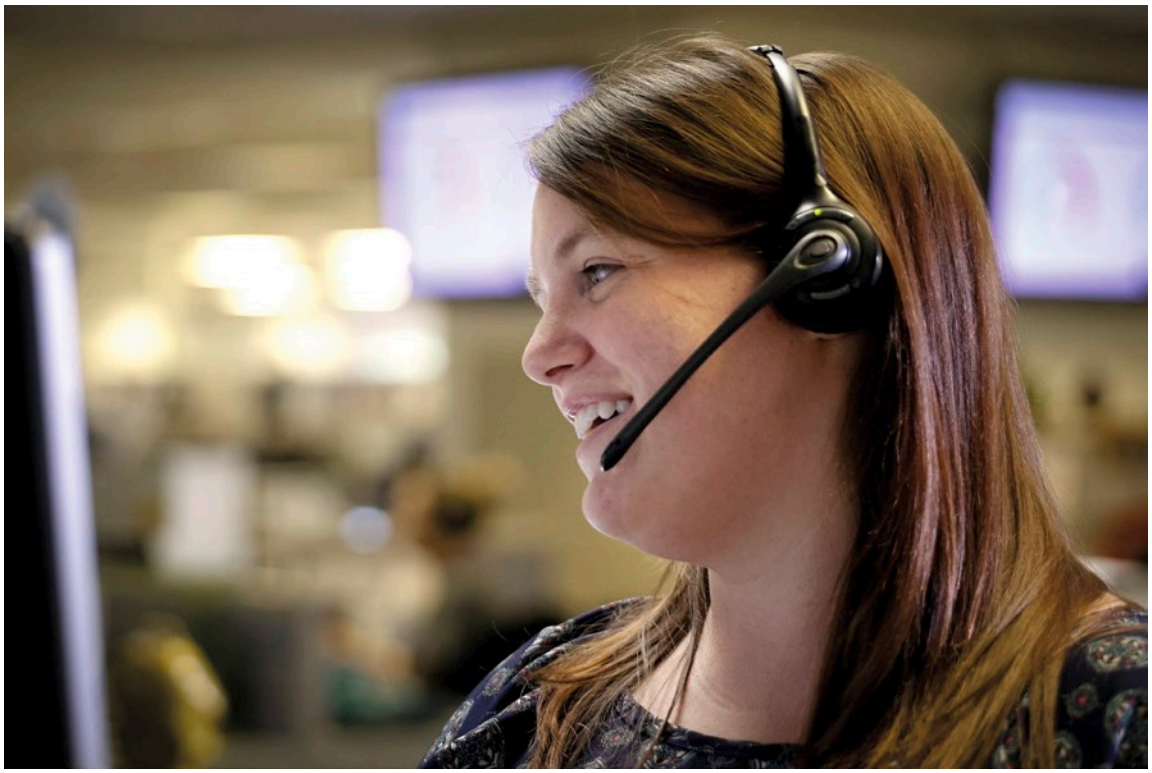
- View and track orders: Monitor your orders and convert quotes in a few clicks
- Adjust recurring orders: Easily make changes to your upcoming orders
- Save your favourites: Create a list of favourite products and save time when reordering
- Visit our support portal for expert answers to your technical questions

Register now
uk.hach.com/create-account

Contact Us

Looking forward to hearing from you!

Contact us to place an order, request product information, technical support, arrange a service plan or service engineer visit. Enquire about our training courses and workshops. We can also provide the recycling of your used reagents.



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