



# Complete Water and Product Quality Analysis

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Wine Industry



# Your Partner for Water Analysis in the Wine Industry

At Hach, we understand your water needs when it comes to ensuring the highest levels of product quality, consistency and safety. As your plant moves towards digitalization Hach has the right solution to provide digital data, remote monitoring and all managed within your software programs. Our aim is to support the shift towards automation, moving away from manual testing to improving your processes, removing costly errors, improving products, whilst minimizing product losses. Today's producers aspire to minimize waste and water reuse.

With these goals in mind, it is critical to use the correct instrumentation and chemistries that are designed to withstand the challenges in the beverage industry. Since 1947, Hach® beverage professionals design, manufacture, and distribute world class instrumentation, test kits, and chemistries across many beverage industry applications from start to finish across influent, production control, quality lab, and effluent treatment.

Water is key for the Wine Industry. Water analytics and purification ensures manufacturers are producing a consistently high-quality products while maximizing up time. Wineries need highly accurate analytical instruments with minimal maintenance requirements to keep the plant up and running.

We invite you to take a look at our comprehensive line of product and service solutions. As your plant is unique, there may be additional products that will work for your application. Please reach out to one of our local experts for a customized solution.

Hach offers:

- On-line process instrumentation and reagents
- Laboratory equipment, reagents, and supplies
- More EPA-approved methods than any other company
- Portable test kits and field instruments
- Automatic samplers and flow meters
- Local sales and service teams
- Service partnership programs and customized training

Whether your goal is to maintain permit compliance, prevent product loss, or optimize water treatment, Hach has expert answers and complete solutions to help you succeed.





# SPECTROPHOTOMETERS

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## DR1900 VIS Spectrophotometer

- Combines ruggedness and portability of field instrument with over 220 of most commonly tested water methods
- Ensure accuracy in the field with wavelength range of 340-800 nm.
- Carry more water methods wherever you need them most
- Water protection is IP67 (water proof)
- Wavelength resolution: 1 nm

Description	Article number	What's included
DR 1900 Portable Spectrophotometer	DR1900-01H	Instrument Manual, dust cover, 1-in. square matched glass sample cells, AA alkaline batteries 4/pk, and a four-type adapter set.

## DR3900 Benchtop Spectrophotometer

- Consistently accurate results in simple testing format
- Built in applications for over 240 test methods
- Reading mode: transmittance (%), absorbance and concentration
- Wavelength accuracy:  $\pm 1.5$  nm (wavelength range 370 - 1100 nm)
- Wavelength range: 320 - 1100 nm



Description	Article number	What's included
DR3900 Benchtop VIS Spectrophotometer with RFID* Technology	LPV440.99.00012	Adapter A for 1 in. round and 1 cm square cells, matched pair of 1 in. square glass sample cells, light shield, dust cover, printed basic user manual and benchtop power supply with 115 and 230V power cords.



## DR6000™ UV VIS Spectrophotometer

- Your water testing needs, all in one spectrophotometer
- More than 250 kinds of built-in water quality parameters for test method application
- Time-saving automatic method detection and superior accuracy
- High-speed wavelength scanning across the UV and visible spectrum
- Wavelength accuracy:  $\pm 1$  nm in wavelength range 190 - 1100 nm

Description	Article number	What's included
DR6000 UV VIS Spectrophotometer with RFID Technology	LPV441.99.00012	<ul style="list-style-type: none"> <li>• 1x DR6000 UV VIS Spectrophotometer</li> <li>• 1x Power Cord (US, EU)</li> <li>• 1x Universal-Adapter</li> <li>• 1x Dust Cover</li> <li>• Matched pair of 1 inch glass sample cells</li> <li>• Printed multilingual basic user manual</li> </ul>

# COLORIMETERS

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## DR300 Colorimeter

- Single Parameter go-anywhere portable photometer
- Battery operation for a maximum of 5000 tests
- Waterproof instrument IP67 (even better than PCII)
- Larger, better display
- Data connectivity. Bluetooth to Claros
- Bluetooth connectivity currently available only in US, Canada and EU.

Description	Article number	What's included
DR300 Pocket Colorimeter, Chlorine, Free + Total, LR/HR, with Box	LPV445.97.00110	Each DR300 Pocket Colorimeter comes as a ready-to-use kit in a sturdy custom carrying case (4660200), including batteries, sample cells (2427606), and a manual. Reagents have to be purchased separately.

## DR900 Multiparameter Handheld Colorimeter

- Fastest and simplest water testing for the most demanding field environments
- Satisfies your core testing needs
- Field ready in every way possible
- Waterproof, dustproof and field durable
- Ability to test up to 90 methods
- Intuitive user interface
- USB data transfer is available
- Wavelength range: 420 nm, 520 nm, 560 nm, 610 nm

Description	Article number	What's included
DR900 Multiparameter Portable Colorimeter	9385100	DR900 instrument, USB cable with mini-USB connector, 4-AA alkaline batteries, 2 glass sample cells 1-inch (25 mm) round with 10, 20, 25-mL marks, 2 sample cells 1 cm/10 mL, sample cell adapter and multilingual user manual



# TNTplus Bar-Coded Chemistries

TNTplus vials use DosiCaps (freeze-dried reagents integrated into a sealed cap that are easier to use than Powder Pillows or Liquid Reagents, without any risk of contamination.

- Error free and fast—instrument automatically detects and runs the correct method
- Easy, accurate recognition — colour-coded parameters and ranges
- Best results—10 measurements in one rotation, eliminating outliers; optically superior glassware



## Full Range of TNTplus Products

Prod. No.	Parameter	Range
TNT870	Alkalinity, Total	25 - 400 mg/L CaCO <sub>3</sub>
TNT848	Aluminium	0.02 - 0.50 mg/L Al
TNT830	Ammonia, Nitrogen	0.015 - 2.00 mg/L NH <sub>3</sub> -N
TNT831		1 - 12 mg/L NH <sub>3</sub> -N
TNT832		2 - 47 mg/L NH <sub>3</sub> -N
TNT833		47 - 130 mg/L NH <sub>3</sub> -N
TNT834		100 - 1800 mg/L NH <sub>3</sub> -N
TNT882KTO	Anammox Activity	0 - 1000 mAbs
TNT817	International Bitter Units	≥2 International Bitter Units
TNT877	Boron	0.05 - 2.50 mg/L B
TNT852	Cadmium	0.02 - 0.30 mg/L Cd
TNT879	Chloride	1 - 70 mg/L Cl 70 - 1000 mg/L Cl
TNT866	Chlorine, Free	0.05 - 2.00 mg/L Cl <sub>2</sub>
TNT867	Chlorine, Total	0.05 - 2.00 mg/L Cl <sub>2</sub>
TNT854	Chromium, Hexavalent Chromium, Total	0.03 - 1.00 mg/L Cr
TNT820	COD (Chemical Oxygen Demand)	1 - 60 mg/L COD
TNT821		3 - 150 mg/L COD
TNT822		20 - 1500 mg/L COD
TNT823		250 - 15000 mg/L COD
TNT824		5,000 - 60,000 mg/L COD
TNT815	COD (for samples up to 20000 mg/L Chloride)	7 - 70 mg/L COD 70 - 700 mg/L COD
TNT825	Chemical Oxygen Demand (COD), Mercury-Free	25 - 1000 mg/L COD
TNT860	Copper	0.1 - 8.0 mg/L Cu
TNT862	Cyanide	0.01 - 0.6 mg/L CN
TNT878	Fluoride	0.1 - 2.5 mg/L F
TNT871	Formaldehyde	0.5 - 10 mg/L H <sub>2</sub> CO
TNT858	Iron, Ferrous Iron, Total	0.2 - 6.0 mg/L Fe
TNT850	Lead	0.1 - 2.0 mg/L Pb
TNT849	Magnesium	0.5 - 50 mg/L Mg
TNT856	Nickel	0.1 - 6.0 mg/L Ni

Prod. No.	Parameter	Range
TNT835	Nitrate, Nitrogen	0.23 - 13.50 mg/L NO <sub>3</sub> -N
TNT836		5 - 35 mg/L NO <sub>3</sub> -N
TNT839	Nitrite, Nitrogen	0.015 - 0.600 mg/L NO <sub>2</sub> -N
TNT840		0.6 - 6.0 mg/L NO <sub>2</sub> -N
TNT841	Nitrogen, Simplified Total Kjeldahl	2 - 90 mg/L NO <sub>2</sub> -N
TNT880		0 - 16 mg/L N
TNT826	Nitrogen, Total Inorganic	1 - 16 mg/L N
TNT827		5 - 40 mg/L N
TNT828	Phenols	20 - 100 mg/L N
TNT868		5 - 150 mg/L
TNT846	Phosphorus, Reactive (Ortho)	1.6 - 30 mg/L PO <sub>4</sub> -P (5 - 90 mg/L PO <sub>4</sub> )
TNT843		0.05 - 1.5 mg/L PO <sub>4</sub> -P (0.15 - 4.5 mg/L PO <sub>4</sub> )
TNT844	Phosphorus, Acid Hydrolyzable Phosphorus, Reactive (Ortho) Phosphorus, Total	0.5 - 5.0 mg/L PO <sub>4</sub> -P (1.5 - 15.0 mg/L PO <sub>4</sub> )
TNT845		2 - 20 mg/L PO <sub>4</sub> -P (6 - 60 mg/L PO <sub>4</sub> )
TNT864	Sulfate	40 - 150 mg/L SO <sub>4</sub>
TNT865	Sulfate	150 - 900 mg/L SO <sub>4</sub>
TNT861	Sulfide	0.1 - 2.0 mg/L S <sup>2-</sup>
TNT874	Surfactants, Anionic	0.1 - 4.0 mg/L
TNT885	Surfactants, Cationic	0.2 - 2 mg/L as CTAB
TNT875	Surfactants, Nonionic	0.2 - 6.0 mg/L as Triton x 100
TNT876	Surfactants, Nonionic	6 - 200 mg/L as Triton X-100
TNT810	TOC (Total Organic Carbon)	1.5 - 30.0 mg/L C
TNT811		30 - 300 mg/L C
TNT819	Vicinal diketones (VDK)	0.015 - 0.5 mg/kg Diacetyl
TNT872	Volatile Acids	50 - 2,500 mg/L Acetic Acid
TNT869	Water Hardness	20 - 350 mg/L as CaCO <sub>3</sub>
		5 - 100 mg/L Ca 3 - 50 mg/L Mg

## TNTplus Features

Easy and safe Dosi-Cap  
Zip—freeze-dried  
reagent integrated  
into sealed cap

Narrow neck  
minimizes  
chance for  
reagent spills

Optically  
superior  
glassware

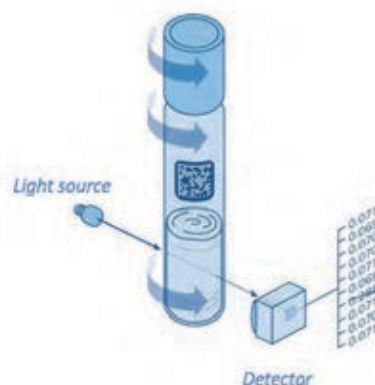


Vials are color-coded by  
parameter and range  
for easy recognition  
and error elimination

Barcode makes  
testing hands-free  
and fast—Instrument  
automatically detects  
and runs the correct  
method and verifies  
expiry date

Flat bottom—  
improves handling,  
vial stands on its own

As the cuvette rotates, any scratches, soil and flaws on  
the glass of the cuvette are detected and the  
measurements taken at these points are rejected



More Test Methods are  
Available on Our Website



Hach Methods quick reference guide

Download

# DRB200 DIGITAL REACTOR

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Various options available,  
please go to our website



- Provides one-key operation that's unique and fast
- Block heats from 20 to 150°C in less than 10 minutes
- Fully insulated heater block with no skin contact
- Accommodates most test vials
- Select dual block model for simultaneous digestions
- Select single / dual block model for simultaneous digestions

## Cooling rack for 10 cuvettes (Ø 16 mm), stainless steel

Stainless steel rack for holding hot COD vials or test tubes prior to reading. Fit Hach COD vials and Test 'N Tube vials. Vials not included.





# TL23 SERIES BENCHTOP TURBIDIMETER

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The new TL23 Series laboratory turbidimeters blend trusted technology of the 2100N/AN and improved features to simplify testing in the most demanding industrial and wastewater applications.

## What is the same?

The TL23 series uses the exact same optic block as the legacy 2100N/AN series turbidimeters. No need for additional validation or evaluation

## What is new?

- Improved and intuitive design: large full color display with guided procedures for calibration and verification
- A smart device for more reliable measurements: the instrument detects sample stability prior to taking a reading
- Easy to use. Easy to be right: with a USB port for data export, sample identification for traceability and self-diagnosis for quality assurance



## What is in the box:

TL2300 Turbidimeter. silicone oil, oiling cloth. USEPA filter assembly. 1-inch sample cells (30 mL) with caps (6x). Gelex secondary turbidity standardization kit. StablCal calibration kit. power supply. power cord. dust cover.

Article number: LPV444.99.00210

## TL2300 Turbidimeter Accessories



Silicone oil,  
15 mL SCDB  
Product #: 126936

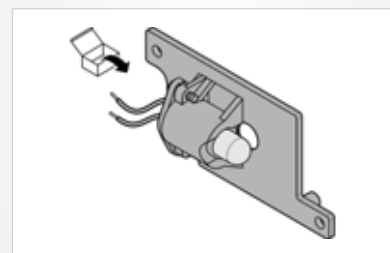


Lab Turbidimeter  
Sample Cells - 6pk  
Product #: 2084900



Stablcal Turbidity standards  
calibration kit, 0 -400 NTU  
Product #: 2662105-AU

## TL2300 replacement lamp



Product #: 9659000

# 2100Q PORTABLE TURBIDIMETER

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## Easiest calibration and verification with accurate results every time.

The Hach 2100Q and 2100Qis Portable Turbidimeters offer unsurpassed ease of use and accuracy in turbidity measurement. Only Hach offers this combination of advanced features including assisted calibration, simplified data transfer, and innovative measurement techniques that give you accurate results every time.

## 2100Q

### 2100Q Portable Turbidimeter (EPA), 0-1000 NTU

Easiest calibration and verification with accurate results every time.

- Easy on-screen assisted calibration and verification
- Simple data transfer
- Accurate for rapidly settling samples
- Convenient data logging
- Optical system for precision in the field

Article number	What's included
2100Q01-AU	Instrument, case assembly, 4 AA alkaline batteries, 6 sample cells, Stablcal ampule kit, silicone oil, oiling cloth, manual.

## 2100Q USB

### 2100Q Portable Turbidimeter Kit (EPA), 0-1000 NTU, with USB and Power Module

The Hach 2100Q Portable Turbidimeter offers unsurpassed ease of use and accuracy in turbidity measurement. Only Hach offers this unique combination of advanced features and measurement innovation, giving you accurate results every time.

Article number	What's included
2100Q01USB	Includes 2100Q instrument kit (2100Q01) and USB+Power Module (LZV813.99.00002).



## 2100Q reorder parts



Sample cells with caps for 2100 portable turbidimeters, 10 mL, 6 pcs  
Product #: 2434706



Silicone oil, 15 mL SCDB  
Product #: 126936



Stablcal Calibration kit, Formazin, for 2100Q/Qis Portable Turbidimeters  
Product #: 2971205-AU



Replacement Lamp Assembly for 2100 Series Portable Turbidimeters  
Product #: 4653900



# HQ SERIES PORTABLE METERS

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A robust and intuitive range of portable meters, instilling confidence in reporting and managing your results.



## Performing a successful calibration has never been so simple

Most measuring issues are due to incorrect calibration procedures. With our illustrated, step-by-step on-screen calibration and troubleshooting procedures, water quality professionals can succeed every time.

## HQ Series Portable Meters

Now offering a complete water analysis portfolio of testing parameters with standard, rugged, and ultra options. The HQ Series gives maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.



## Parameter Table

Model	HQ1110 pH/ORP/ 1 Channel	HQ1130 DO/ 1 Channel	HQ1140 EC/TDS/ 1 Channel	HQ2100 Multi/ 1 Channel	HQ2200 Multi/ 2 Channels	HQ4100 Multi/ISE/ 1 Channel	HQ4200 Multi/ISE/ 2 Channels	HQ4300 Multi/ISE/ 3 Channels
Temperature	✓	✓	✓	✓	✓	✓	✓	✓
pH	✓			✓	✓	✓	✓	✓
mV	✓			✓	✓	✓	✓	✓
Conductivity			✓	✓	✓	✓	✓	✓
TDS			✓	✓	✓	✓	✓	✓
Salinity			✓	✓	✓	✓	✓	✓
Resistivity				✓	✓	✓	✓	✓
Dissolved Oxygen (LDO)		✓		✓	✓	✓	✓	✓
BOD (with LDO)		✓		✓	✓	✓	✓	✓
ORP/Redox	✓			✓	✓	✓	✓	✓
Ammonia						✓	✓	✓
Ammonium						✓	✓	✓
Chloride						✓	✓	✓
Fluoride						✓	✓	✓
Nitrate						✓	✓	✓
Sodium						✓	✓	✓

*\*Subject to change without notice.*

## Technical Data

Model	HQ1110 pH/ORP/ 1 Channel	HQ1130 DO/ 1 Channel	HQ1140 EC/TDS/ 1 Channel	HQ2100 Multi/ 1 Channel	HQ2200 Multi/ 2 Channels	HQ4100 Multi/ISE/ 1 Channel	HQ4200 Multi/ISE/ 2 Channels	HQ4300 Multi/ISE/ 3 Channels
Data Memory	5000 data points			10,000 data points		100,000 data points		
Display Type	536x336 Mono-TFT			536x336 Mono-TFT		640x480 Color TFT		
Inputs	1			1	2	1	2	3
Weight (Meter only)	519 g			519 g	541 g	530 g	550 g	570 g
Warranty	EU: 2 years US and other geographies: 1 year					3 years		
Dimensions (H x W x D)	63 mm x 97 mm x 220 mm							
Enclosure Rating	IP67 (with battery compartment installed)							
Data Storage	Automatic in Press to Read Mode and Interval Mode. Manual in Continuous Read Mode.							
Data Export	USB connection to PC or USB storage device (limited to the storage device capacity).							
Software available								
Display	Up to 3 parameters at a time, dependent on HQ model							
Backlight	Yes							
Lock Function	Continuous / Auto-stabilization ("press to read") / At Interval							
Languages	English, Chinese - Simplified, Spanish, French, German, Italian, Japanese, Turkish, Dutch, Portuguese (PT & BR), Korean, Danish, Swedish, Polish, Norwegian, Hungarian, Greek, Finnish, Czech, Romanian, Croatian, Bulgarian, Slovak, Lithuanian, Estonian, Slovenian, Russian							
Certifications	CE, FCC, ISED, RCM, KC, ETL Verified: US DOE/ NRCan Energy Efficiency, RoHS							
GLP Features	Date; Time; Sample ID; Operator ID, Calibration							
Power Supply	Rechargeable lithium-ion battery 18650 (internal) Class II, USB power adapter: 100 - 240 VAC, 50/60 Hz input; 5 VDC at 2 A USB power adapter output (external)							

# HQd BENCHTOP METERS

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



<b>Parameter</b>	<b>HQ411d DEDICATED pH/mV BENCHTOP METER</b>	<b>HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER</b>	<b>HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER</b>
Temperature	■	■	■
pH			
Glass	■	■	■
Non-glass (ISFET)			
mV	■	■	■
Conductivity		■	■
TDS		■	■
Salinity		■	■
Resistivity		■	■
Dissolved Oxygen			
Luminescent (LDO)		■	■
BOD Sensor (with LDO)		■	■
ORP/Redox	■	■	■
Ion Selective Electrodes			
Ammonia		■	■
Ammonium		■	■
Chloride		■	■
Fluoride		■	■
Nitrate		■	■
Sodium		■	■

<b>Specifications</b>	<b>HQ411d DEDICATED pH/mV BENCHTOP METER</b>	<b>HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER</b>	<b>HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER</b>
IP Rating	IP54	IP54	IP54
Internal Data Storage	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (2) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Resolution	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001	0.1/ 0.01/ 0.001
Interface Languages	13**	13**	13**
Warranty	3 years	3 years	3 years
Compliance	CE.WEEE	CE.WEEE	CE.WEEE
GLP Features	■	■	■
PC Data Transfer Software	included	included	included
Backlight	■	■	■
Battery Operation	■	■	■
Probe Stand	optional for all models	included	included
<b>Prod. No.</b>	<b>HQ411D</b>	<b>HQ430D</b>	<b>HQ440D</b>

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



# IntelliCAL Probes



Specifications	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity	Conductivity
Special Feature	LDO technology. No membranes.	LDO technology. No membranes.	LDO technology. Designed for BOD applications. No membranes.		
Probe Type	Laboratory Luminescent Dissolved Oxygen	Rugged Luminescent Dissolved Oxygen	Laboratory	Field & Lab	Rugged Outdoor
Range	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	0.05 to 20.00 mg/L	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm	Cond.: 0.01 µS/cm to 200 mS/cm TDS: 0 to 50,000 mg/L as NaCl Salinity: 0 to 42 g/kg or Resist.: 2.5 Ω cm to 49 MΩ cm
Accuracy	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.1 from 0 to 8 mg/L ±0.2 for greater than 8 mg/L	±0.05 from 0 to 10 mg/L ±0.1 for greater than 10 mg/L	Cond: ±0.5% of range TDS: ±0.5% ±1 digit Salinity: ±0.1, ±1 digit	EC: 0.01 µS/cm (5 digits, maximum) TDS: 0.001, 0.01, 0.1 mg/L Salinity: 0.01 ppt
Temperature Range	0 to 50 °C	0 to 50 °C	0 to 50 °C	-10 to 110 °C	-10 to 110 °C
Dimensions (D x L)	0.59 in x 7.87 in (15 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)	0.62 in x 7.87 in (15.875 mm x 200 mm)	0.55 in x 7.87 in (14 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$	4-pole graphite, $k = 0.40 \text{ cm}^{-1}$
Material	Sensor Body: Polycarbonate / Abs	Sensor Body: Polycarbonate / Abs with Stainless Steel	Sensor Body: Polycarbonate / Abs	Sensor Body: Noryl	Sensor Body: Noryl with Stainless Steel
Prod. No.	LDO10101	LDO10105	LBOD10101	CDC40101	CDC40105



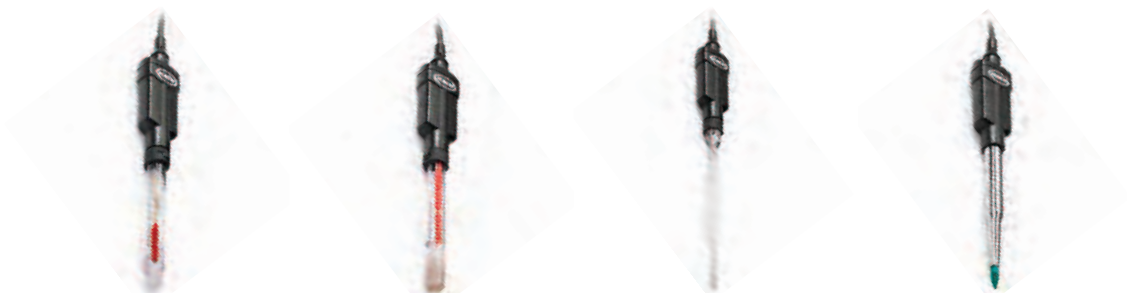
Specifications	pH Gel-Filled	pH Refillable	pH Refillable	pH Gel-Filled	pH Gel-Filled
Special Feature	Plastic body, general purpose	Plastic body, refillable, general purpose	Plastic body, LIS	Plastic body, wastewater	Low maintenance
Probe Type	Field & Lab	Field & Lab	Field & Lab	Field & Lab	Rugged Outdoor
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	2 to 14 pH	2 to 14 pH
Accuracy	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH	±0.02 pH
Temperature Range	0 to 80 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C	0 to 50 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Ceramic pin	Ceramic pin	Open	Open	Open
Material	Sensor Body: Epoxy	Sensor Body: Zeonor™	Sensor Body: Zeonor™	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel
Filling Solution	Non-refillable gel	2841700	2965026	Non-refillable solid gel	Non-refillable solid gel
Prod. No.	PHC20101	PHC30101	PHC28101	PHC10101	PHC10105

1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.  
\*Fits BOD bottle neck size > 15.875mm inside diameter

# IntelliCAL Probes



<b>Specifications</b>	<b>pH Refillable</b>	<b>pH Red Rod Refillable</b>	<b>pH Red Rod Refillable</b>	<b>pH Red Rod Refillable</b>	<b>pH Red Rod Refillable</b>
Special Feature	Glass body, general purpose	Glass body, high-performance	Glass body, high-performance	Glass body, high-performance, wastewater	Glass body, high-performance, wastewater influent
Probe Type	Laboratory	Laboratory	Laboratory	Laboratory	Laboratory
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH
Accuracy	±0.02 pH	±0.01 pH	±0.01 pH	±0.01 pH	±0.01 pH
Temperature Range	0 to 80 °C	-10 to 100°C	-10 to 100°C	-10 to 100°C	-10 to 100°C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)
Sensor Type	Glass	Glass	Glass	Glass	Glass
Reference Type	Ag/AgCl	Red Rod, Saturated KCLl	Red Rod, Saturated KCLl	Red Rod, Saturated KCLl	Red Rod, Saturated KCLl
Junction	Porous Pin	Porous Pin	Annular Ring	High-Flow Annular Ring	Sleeve
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass
Filling Solution	2756559	25118026	25118026	25118026	25118026
Prod. No.	<b>PHC80501</b>	<b>PHC70501</b>	<b>PHC72501</b>	<b>PHC73501</b>	<b>PHC74501</b>



<b>Specifications</b>	<b>pH Red Rod Refillable</b>	<b>pH Red Rod Refillable</b>	<b>pH Refillable</b>	<b>pH Gel-Filled</b>
Special Feature	Glass body, high-performance, high alkalinity	Glass body, high-performance, flat surface	Glass body, micro-samples	Stainless steel body, piercing tip
Probe Type	Laboratory	Laboratory	Laboratory	Field & Lab
Range	0 to 14 pH	0 to 12 pH	0 to 14 pH	2 to 12 pH
Accuracy	±0.01 pH	±0.01 pH	±0.02 pH	±0.02 pH
Temperature Range	-10 to 100°C	-10 to 100°C	0 to 80°C	0 to 60°C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	0.19 in x 9.72 in (5 mm x 247 mm)	0.24 in x 7.17 in (6 mm x 182 mm)
Sensor Type	Glass	Glass	Glass	Glass
Reference Type	Red Rod, Saturated KCLl	Red Rod, Saturated KCLl	Ag/AgCl	Ag/AgCl
Junction	Porous Pin	Annular Ring	Porous Pin	Porous Pin + Open
Material	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: Glass	Sensor Body: SS w/ Glass Tip
Filling Solution	25118026	25118026	2841700	—
Prod. No.	<b>PHC705A01</b>	<b>PHC72901</b>	<b>PHC30701</b>	<b>PHC10801</b>

# IntelliCAL Probes



<b>Specifications</b>	<b>ORP/Redox Gel-Filled</b>	<b>ORP/Redox Refillable</b>	<b>ORP/Redox Refillable</b>
Special Feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning.	Flat disc sensor for easy cleaning.
Probe Type	Field & Lab	Field & Lab	Rugged Outdoor
Range	± 1200 mV	± 1200 mV	± 1200 mV
Accuracy	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater	±0.02mV or 0.05%, whichever is greater
Temperature Range	0 to 80 °C	0 to 80 °C	0 to 80 °C
Dimensions (D x L)	0.47 in x 7.87 in (12 mm x 200 mm)	0.47 in x 7.87 in (12 mm x 200 mm)	1.77 in x 9.84 in (45 mm x 250 mm)
Sensor Type	Platinum disc	Platinum disc	Platinum disc
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Open	Ceramic pin	Open
Material	Sensor Body: Epoxy	Sensor Body: Epoxy	Sensor Body: Zeonor™ with Stainless Steel
Filling Solution	Non-refillable gel	2841700	Non-refillable gel
ISA Required	—	—	—
Prod. No.	<b>MTC10101</b>	<b>MTC30101</b>	<b>MTC10105</b>

## Accessories

<b>Prod. No.</b>	<b>Description</b>
<b>8980000</b>	Power Supply, 5V, 2A, 100-240V, R Series
<b>LEZ015.99.A005A</b>	Wrist Strap & Dust Plugs & Caps, HQ Series
<b>LEZ015.99.00002</b>	Cable, USB 2.0 A to Micro B, HQ Series
<b>LEZ015.99.A001A</b>	HQ Standard Probe Field Case
<b>LEZ015.99.A002A</b>	HQ Rugged Probe Field Case
<b>LEZ015.99.A003A</b>	HQ Kickstand and Handstrap
<b>LEZ015.99.A004A</b>	HQ Protective Glove





# STANDARD PH BUFFER AND CONDUCTIVITY SOLUTIONS

## pH BUFFER SOLUTIONS

Name	Description	Quantity	Art. no.
<b>Certified Reference Materials (CRM) in accordance with DIN EN ISO 17034:2017</b>			
Supplied in airtight aluminium containers; guaranteed shelf life in unopened condition; with DKD* certificate; accuracy $\pm 0.010$ pH (25°C).			
pH 1.679		500 mL	S11M001
pH 4.005		500 mL	S11M002
pH 6.865		500 mL	S11M003
pH 7.000		500 mL	S11M004
pH 7.413		500 mL	S11M005
pH 9.180		500 mL	S11M006
pH 10.012		500 mL	S11M007
pH 12.45		500 mL	S11M008

## High quality buffer solutions traceable to NIST standard reference materials

Ready to use; with and without colour-coding\*\*

pH 4.01	Red	500 mL	2283449
pH 7.00	Yellow	500 mL	2283549
pH 10.01	Blue	500 mL	2283649
pH 4.01	Colorless	500 mL	1222349
pH 7.00	Colorless	500 mL	1222249
pH 10.00	Colorless	500 mL	1222149
pH 1.09	Technical grade, colourless	500 mL	S11M009
pH 4.65	Technical grade, colourless	500 mL	S11M010
pH 9.23	Technical grade, colourless	500 mL	S11M011

## Buffer powder pillows

Individually sealed, to prepare 50 mL buffer solution

pH 4.01	Red	50/pk	2226966
		250/pk	2226964
pH 7.00	Yellow	50/pk	2227066
		250/pk	2227064
pH 10.00	Blue	50/pk	2227066
		250/pk	2227164

## SINGLET buffer solutions

In airtight, colour-coded, individual 25 mL pouches\*\*

pH 7.00 and pH 10.01	Yellow + Blue	2 x 10/pk	2769820
pH 4.01 and pH 7.00	Red + Yellow	2 x 10/pk	2769920
pH 4.01	Red	20/pk	2770020
pH 7.00	Yellow	20/pk	2770120
pH 10.01	Blue	20/pk	2770220

## CONDUCTIVITY STANDARD SOLUTIONS

Name	Description	Quantity	Art. no.
<b>Certified Reference Materials (CRM) in accordance with DIN EN ISO 17034:2017</b>			
Supplied in an airtight aluminium container; guaranteed shelf-life; with DKD* certificate.			
KCl 1 D	111.3 mS/cm $\pm 0.5\%$	500 mL	S51M001
KCl 0.1 D	12.85 mS/cm $\pm 0.35\%$	500 mL	S51M002
KCl 0.01 D	1,408 $\mu$ S/cm $\pm 0.5\%$	500 mL	S51M003
NaCl 0.05%	1,015 $\mu$ S/cm $\pm 0.5\%$	500 mL	S51M004
NaCl	25 $\mu$ S/cm $\pm 0.5\%$	250 mL	S51M013

## NaCl solutions traceable to NIST standard reference materials

85.47 mg/L as NaCl	180 $\pm 10$ $\mu$ S/cm	100 mL	2307542
491 mg/L as NaCl	1,000 $\pm 10$ $\mu$ S/cm	100 mL	1440042
1,000 mg/L as NaCl	1,990 $\pm 20$ $\mu$ S/cm	100 mL	210542
10,246 mg/L as NaCl	18,000 $\pm 50$ $\mu$ S/cm	100 mL	2307442

## Molar KCl solutions traceable to NIST standard reference materials

KCl 0.1 M	12.88 mS/cm	500 mL	C20C250
KCl 0.01 M	1413 $\mu$ S/cm	500 mL	C20C270
KCl 0.001 M	146.9 $\mu$ S/cm	500 mL	C20C280



\* DKD accredited production (Deutscher Kalibrierdienst) is a German accreditation body.

\*\* Buffer traceable to NIST standard reference materials, accuracy  $\pm 0.02$  pH (25 °C).

# TITRAMETRIC

## AT1000 Automated Titrator

Automated titration for accurate and repeatable measurement, with complete traceability. Minimal reagent contact and eliminate sample preparation. Use for final QA lab test for total acidity in soft drinks. Beverage application packs available for key parameters such as Total Acidity, pH, and SO<sub>2</sub>.

## Automatic titration without all the complications

Titration can be easy. The TitrLab AT1000 from Hach uses pre-set functions that eliminate complex programming and provide accurate results.



## 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.

## AT1000 Series Titrator Models

Titrator Models		AT1102	AT1112	AT1122	AT1222
Burette for Titrant		1	1	1	2
Integrated Peristaltic Pump		0	1	2	2
Maximum Number of Applications		5	5	5	10
Water Applications					
AP0001.AT1102	pH/Alkalinity in Water	■	■	■	■
AP0002.AT1102	pH/Alkalinity & Conductivity in Water	■	■	■	■
AP0003.AT1112	Ca & Mg Hardness (ISE) in Water	-	■	■	■
AP0004.AT1112	Total Hardness (Color) in Water	-	■	■	■
AP0005.AT1222	pH/Alkalinity & Hardness (ISE) in Water	-	-	-	■
AP0009.AT1112	Chlorides in Water	-	■	■	■
Food and 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 <sub>2</sub> in Wine	-	-	■	■
AP0013.AT1222	pH, Total Acidity, Free & Total SO <sub>2</sub> in Wine	-	-	-	■

# TITRALAB AS1000 SERIES SAMPLE CHANGER

The AS1000 Sample Changer is the perfect laboratory assistant for automating analyses on sample series.

Titration automation of sample series can be easy. Titralab® AS1000 series sample changer is used in connection with AT1000 Series titrators and TM1000 Windows Software to automatically perform sample series analyses (TM1000 Software and connection cables are included in the standard delivery).



System setup illustration with AT1000 Series Titrator and AS1000 Sample Changer

## Run sample analyses in total autonomy, without user intervention

The rotating module turns the tray to change the sample position while the lifting module moves sensors and tubes up and down into each sample. Single-radius sample trays for up to 30 samples.

## Complete automation to free up your time

AS1000 Sample Changer multi-parameter automation solutions release operators' time from cumbersome repetitive analyses for more valuable tasks that cannot be automated.

## Order Information

### Sample Changer Models

<b>AS1000.97.12150</b>	Titralab® AS1000 Series Sample Changer, 12 positions, 50 mL & 150 mL beakers, for two probes
<b>AS1000.97.20090</b>	Titralab® AS1000 Series Sample Changer, 20 positions, 90 mL beakers, for one probe
<b>AS1000.97.30050</b>	Titralab® AS1000 Series Sample Changer, 30 positions, 50 mL beakers, for one probe

The scope of supply of each AS1000 Sample Changer **includes TM1000 PC Software** and connection cables.

### Accessories and Spare Parts

<b>LZE108</b>	Set of beakers, 50 mL, PP (10 pcs)	<b>LZE136</b>	Magnetic bars, 20 x 6 mm (10 pcs)
<b>LZE109</b>	Set of beakers, 150 mL, PP (10 pcs)	<b>LZE201</b>	Carousel, 20 positions, 90 mL beakers
<b>LZE193</b>	Set of beakers, 50 mL, PP (30 pcs)	<b>LZE202</b>	Carousel, 30 positions, 50 mL beakers
<b>LZE194</b>	Set of beakers, 90 mL PP (20 pcs)	<b>LZE203</b>	Carousel, 12 positions, 50 mL & 150 mL beakers
<b>LZE217</b>	Magnetic bars, 12 x 4.5 mm (30 pcs)	<b>LZE213</b>	Beaker ring adapter, 50 mL (12 pcs)





## Orbisphere 3100 Portable Oxygen Analyser

Accurate oxygen analysis allows the brewer to control the production process so the flavor stability of the wine can be ensured. The 3100 can be adapted to a piercer to measure dissolved oxygen in packages.

- Designed to withstand the harshest environments
- Rugged, reliable, and maintenance free
- Most stable sensor with the longest calibration interval



Beverage package  
sampler for carb  
liquids without  
suspended particles

**Product # : 29972.A**

# CONTROLLER

## SC4500 Controller

- Multi-channel controller operate either 1 or 2 sensors reducing inventory holding cost provides maximum versatility
- Password protected USB reader offers simple solution for data download and transfer
- One controller gives you numerous communication options.
- Technologies are advancing rapidly, providing new levels of convenience, accuracy and efficiency.



## SC1000 Controller

### SC1000 Multi-parameter Universal Controller Display and Probe Module

- Color touch-screen display
- Accepts 2-8 sensors or up to 2 Analyzers combination
- Additional relays and analog inputs and outputs can be added by networking a second probe module or optional DIN -rail communication modules
- Advanced and flexible communication options features additional
- The Hach SC1000 Display Module is available with GSM/GPRS, Ethernet, and TCP/IP capability

# DISSOLVED OXYGEN

## Hach LDO® Model 2, Optical Process Dissolved Oxygen Probe

Hach's next generation LDO (Luminescent Dissolved Oxygen) Probe requires no calibration for the entire 2 year life of the sensor cap, which means it is ready to start measuring your DO (Dissolved Oxygen) right out of the box. With an added cuttingedge 3D calibration procedure that is conducted prior to shipping, the probe will not drift and is more accurate than ever before.

### Applications

- Wastewater
- Industrial Water
- Drinking Water



# pH/ORP/CONDUCTIVITY

## pH Encapsulated Sensor

- LCP (Liquid Crystal Polymer)
- Convertible Mounting Style
- 3 Meter Analog Cable
- 5-Wire with Built-In Preamplifier
- General Purpose Glass pH Electrode
- Gel Filled Standard



## Differential pH • ORP sensor

Differential ORP Sensors

- Plug and Play Capability with Hach's Digital SC Controllers
- Uses three electrodes instead of the two normally used in conventional pH/ORP sensors.
- Encapsulated construction protects the sensor's built-in preamp from moisture and humidity



The result is unsurpassed measurement accuracy, reduced reference junction potential, and elimination of sensor ground loops. These sensors provide greater reliability, resulting in less downtime and maintenance.

## Contacting Conductivity sensor

These enhanced performance sensors are manufactured to exacting tolerances using high quality, rugged materials for demanding applications including ultra-pure water, clean-in-place (CIP), and boiler/condensate monitoring.

Ultimate accuracy from ultra-pure to high conductivity applications.

- Fast response to changes in temperature with  $\pm 0.1^\circ \text{C}$  accuracy
- Measure from theoretically pure water ( $0.057 \mu\text{S/cm}$  or  $18.2 \text{ M}\Omega$ ) up to  $200,000 \mu\text{S/cm}$



## Combination pH • ORP sensor

3/4" Combination pH Sensor, Convertible Sensor Style, Ryton Body Material, General Purpose pH Glass Electrode, Temperature Compensation - PT1000 Ohm RTD



- Double-junction design for extended service life, and a built-in solution ground.
- Body is molded from chemically-resistant Ryton® or PVDF, and the reference junction is coaxial porous PTFE
- All sensors are rated 0 to  $105^\circ \text{C}$  up to 100 psig,

## Inductive Conductivity sensor

The Hach digital Inductive Conductivity Sensors measure 200 up to  $2,000,000 \mu\text{S/cm}$ . A built-in Pt 1000 RTD compensates the measured conductivity for changes in process temperature



The Hach Digital Inductive Conductivity Sensors measure 200 up to  $2,000,000 \mu\text{S/cm}$ . A built-in Pt 1000 RTD compensates the measured conductivity for changes in process temperature.

- Wide measuring range
- Low maintenance design
- Versatile mounting styles
- Withstands harsh environments



# TRADE WASTE ANALYSIS

## AS950 Portable Samplers

- AS950 Portable Sampler is designed for accuracy and convenience
- Field convertible for compact or discrete sampling
- Quickly switch between composite and discrete sampling in the field.
- Configurable for single- or multiple-bottle applications
- Composite container, from 1 to 999 samples and Sample Volume Programmable in 10-mL (0.34 oz) Increments from 10 to 10,000 mL (3.38 oz to 2.6 gal)



## AS950 All-Weather Refrigerated Samplers

- The large full color display and intuitive programming give you access to all your programmable criteria on a single screen
- Utilizes a USB drive to upload and download data and copy programs from one sampler to another
- Designed to endure humid and highly corrosive environments
- Programmable for sample volume in 10-mL increments from 10 to 10,000 mL

## UV Treatment Swift Beverage

SwiftBeverage Series Advanced UV water treatment system featuring the industry's most advanced low pressure, high-output amalgam Lamp technology

**MARKETS:** Food and Beverage, Pharma & Dairy

**APPLICATIONS:** UV water treatment system for flow range: 106-832 (24-189) GPM (m<sup>3</sup>/hr)

- Cost Efficient, high-output amalgam lamps
- High reliability system with robust design and proven components
- Maximum installation flexibility
- Compact footprint
- Electrical efficiency and advanced controls



 Aquafine





## Protect your investment and peace of mind

With Hach Service Plans, you have a global partner 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 maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk. All at a fixed annual cost that eliminates unplanned expenses.

## Hach Service 3-Point Protection

### Elevate Performance

- Advanced Maintenance
- Remote Monitoring

### Establish Performance

- Commissioning
- Calibration/Certification



### Extend Performance

- Routine Maintenance
- Repair

## ESTABLISH PERFORMANCE

### Commissioning

After investing in a new system, it's important that you get off to a good start with data you can trust and confidence in your ability to properly operate and maintain the equipment. Our commissioning services assure that your new system is calibrated and delivering accurate data, and that you are trained to keep the system running smoothly between service visits.

### Calibration/ Certification

We know how important instrument calibration and certification is in maintaining regulatory compliance. As part of every service we provide, we verify that the instrument is performing to our factory specifications and provide the documentation you need to minimize compliance risk.

# EXTEND PERFORMANCE

## Routine Maintenance

Every analytical instrument requires some level of routine maintenance to assure accuracy and minimize downtime. With a Hach Service Plan, we ease the burden by helping you manage your maintenance schedule according to the specific needs of each instrument. When you choose Hach, you can be confident that the highest quality parts are being used and the job gets done right.

## Repair

We understand the impact to your process and your operations when your equipment goes down. You need a service partner who has the resources necessary to get you back up and running fast. With repair coverage through a Hach Service Plan, you get priority service from skilled professionals with the knowledge, tools, and parts readily available to restore your equipment to proper operation as quickly as possible.

# ELEVATE PERFORMANCE

## Advanced Maintenance

With ease of use and simpler routine maintenance comes behind-the-scenes complexity that requires special tools and skills that Hach Service is uniquely qualified to provide. Our advanced maintenance services, including in-depth systems diagnostics, detect and prevent potential issues that can degrade performance or reduce the life of the instrument.

## Remote Monitoring

When you add remote monitoring services, we can help you get the most out of your investment. Our Specialists will help identify opportunities for optimization and maximize uptime by identifying potential issues before they result in unplanned maintenance events.

# HACH SERVICE PLANS

At Hach we understand your facilities' problems are unique, and we have developed service plans that can help give you peace of mind about maintaining and supporting your Hach product. Whether it is a lack of resources, compliance concerns, or the need for predictable budgeting, we have plans to meet your unique needs.

		Self-Service Partnership	ProtectionPlus Plan	Bench Preventative Maintenance Partnership	Preventative Maintenance Partnership	Bench Service Partnership	BenchPlus Partnership	Field Service Partnership	WarrantyPlus Partnership
ESTABLISH PERFORMANCE	Commissioning						✓		✓
	Calibration/Certification			✓	✓	✓	✓	✓	✓
EXTEND PERFORMANCE	Routine Maintenance			✓	✓	✓	✓	✓	✓
	Repair		✓			✓	✓	✓	✓
ELEVATE PERFORMANCE	Advanced Maintenance			✓	✓	✓	✓	✓	✓
	Remote Monitoring							✓**	
PARTS INCLUDED	Maintenance Parts	✓		✓	✓	✓	✓	✓	✓
	Repair Parts		✓			✓	✓	✓	✓
SERVICE LOCATION	On Site				✓		✓*	✓	✓
	Hach Service Center		✓	✓		✓	✓*		

\* Maintenance performed on site. All repairs performed at the Hach Service Center.  
 \*\* For RTC only.



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SCAN ME