



*Be Right™*



Complete Water Analysis  
Solutions for the  
**Mining Industry**

To see the **entire portfolio**  
for the mining industry, please visit



Australia



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# Your Partner for Water Analysis in the Mining Industry

For mining and open-pit mining, Hach® is more than just a provider of world-class mining water measurement tools and testing solutions. We are a trusted partner for metals and mining that can help you identify site-specific needs for mine discharge, adapt to constantly changing regulations and situations, and stay efficient while you minimize the environmental impact.



## Disinfection Monitoring



### Remote Monitoring & Calibration (RMC) Disinfection Panel

The new Hach RMC Disinfection Panel allows you convenient real-time control and calibrations from your office. No need to travel on site, you can make your adjustments very conveniently from your desktop. Extremely reliable and time-saving, equipped with two high performing chlorine analyzers, easy to use plug-and-play controller and latest remote connectivity.



### CL17sc Colorimetric Chlorine Analyzer

The industry standard Hach CL17sc Colorimetric Chlorine Analyzer uses colorimetric DPD chemistry to continuously monitor water for free or total chlorine. Its capability to provide real-time measurements allows for prompt adjustments in treatment processes, ensuring regulatory compliance and effective disinfection.



### CL10sc Amperometric Chlorine Analyzer

The CL10 sc reagentless chlorine analyzer allows for real-time control of disinfection processes by providing continuous readings that indicate when treatment conditions have changed enabling proactive control measures to maintain optimal water quality.

# Lab Instruments & Testing Parameters



## DR6000 Benchtop Spectrophotometer

All Your Water Testing Needs, in One Spectrophotometer. The DR 6000 has the most pre-programmed testing methods, including high-speed wavelength scanning across the UV and Visible Spectrum, providing advanced quality assurance at your fingertips.



## DR3900 Laboratory Spectrophotometer

This photometer system is designed to deliver accurate results and perform with the TNTplus (utilizing the new Truecal™ software) offering: reduced handling steps, precise dosing, automatic test recognition, and expiration date check.



## AT1000 Automated Titrator

Automated titration for accurate repeatable measurement. Minimal reagent contact and eliminate sample preparation. The TitrLab AT1000 Series increases confidence in results and eliminates operator interpretation commonly associated with manual titration.



## TL2300 Turbidimeter

The TL23 Series laboratory turbidimeters blend trusted technology and improved features to simplify testing in the most demanding industrial and wastewater applications.

- Improved and intuitive design
- A smart device for more reliable measurements
- Easy to use. Easy to Be Right



## 2100Q Portable Turbidimeter

Easiest calibration and verification with accurate results every time with the 2100Q.

- 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

***Simplify your lab needs -  
Find all your instruments  
and reagents in one place.***



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# TNTplus Bar-Coded Chemistries

TNTplus vials use Doticaps (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		7 - 70 mg/L COD
TNT816	COD (for samples up to 20000 mg/L Chloride)	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		2 - 90 mg/L NO <sub>2</sub> -N
TNT880	Nitrogen, Simplified Total Kjeldahl	0 - 16 mg/L N
TNT826		1 - 16 mg/L N
TNT827	Nitrogen, Total Inorganic	5 - 40 mg/L N
TNT828		20 - 100 mg/L N
TNT868	Phenols	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	Phosphorus, Acid Hydrolyzable Phosphorus, Reactive (Ortho) Phosphorus, Total	0.05 - 1.5 mg/L PO <sub>4</sub> -P (0.15 - 4.5 mg/L PO <sub>4</sub> )
TNT844		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
		20 - 350 mg/L as CaCO <sub>3</sub>
TNT869	Water Hardness	5 - 100 mg/L Ca
		3 - 50 mg/L Mg

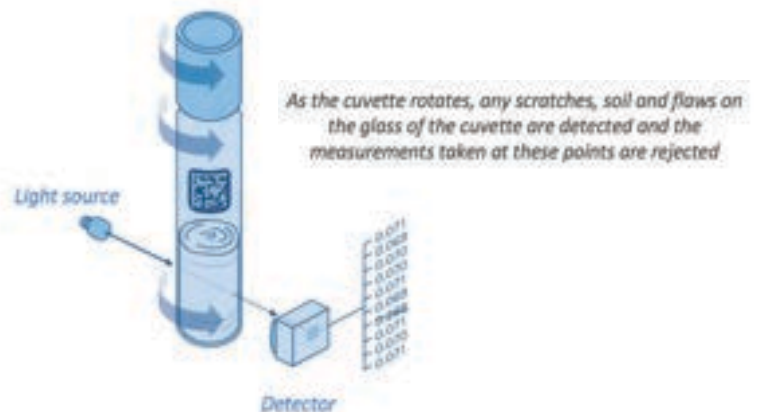
More Test Methods are Available on Website



Hach Methods quick reference guide



## TNTplus Features



## HQ Series Benchtop & Portable Meters

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.

*Please scan the QR Codes below for more information on our Intellical Probes*



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# 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).

# Process Monitoring



## TSS sc Sensors

Hach's TSS sc are special digital probes for determining turbidity and suspended solids in aqueous and aggressive media.



## TU5 Series Turbidimeter

The TU5 Series platform employs a patented optical design that sees more of your sample than any other turbidimeter, delivering the best low level precision and sensitivity while minimizing variability between measurements.



## Ultraturb seawater sc Turbidimeter

Hach's most versatile turbidimeter. With its wide measurement range and optional automatic cleaning system, it is well suited for everything from filter effluent and distribution systems to raw water monitoring service content.



## Service

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.

## Scan the QR Codes for more details



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# 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



## 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 right out of the box. With an added cutting-edge 3D calibration procedure that is conducted prior to shipping, the probe will not drift and is more accurate than ever before.



## Orbisphere 3100 Portable Oxygen Analyser

With Luminescent Dissolved Oxygen (LDO) technology integrated into the Orbisphere 3100, this analyzer is guaranteed to improve process efficiency and provide accurate dissolved oxygen measurements.

- Robust design that endures harsh environments
- Fast response time and accurate measurements
- Very low drift. requires less than once a year calibration/maintenance
- Little downtime and low cost of ownership
- Ideal for process spot check by plant operator

# pH/ORP/Conductivity

## pH Encapsulated Sensor

- LCP (Liquid Crystal Polymer)
- Convertible Mounting Style
- 3 Meter Analog Cable
- 5-Wire with Built-In Pre-amplifier
- 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  $\pm 0.1^\circ$  C accuracy
- Measure from theoretically pure water (0.057  $\mu$ S/cm or 18.2 M $\Omega$ ) up to 200,000  $\mu$ 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° C up to 100 psig,

## Inductive Conductivity sensor

The Hach digital Inductive Conductivity Sensors measure 200 up to 2,000,000 microSiemens/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  $\mu$ 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



# EZ Series Online Analyzers

## Your Complete Solution

Monitoring Solutions for various Applications in Drinking Water, Wastewater and Process Water

- **Wide Analytical Range**
- **Flexibility**
- **Faster Decisions**
- **Expand Your Capabilities**

## Applications

EZ Series parameters cover the complete water cycle from water intake to wastewater effluent. Learn more by downloading application notes and parameter specific documents from the Hach® Support Page. Some examples:

- Aluminium in drinking water
- Iron and Manganese in raw water
- Microbial Activity / ATP in industrial and environmental applications
- Volatile Fatty Acids and Alkalinity in anaerobic digesters
- Alkalinity and Hardness in cooling cycles



Colorimetric Analyzer



ISE Analyzer



Titrator



Chemiluminescence Analyzer



Sample Preconditioning Panel

## One Platform - Multiple Technology

Thanks to the versatile instrument platform, in many cases it will be possible to match the online analysis to your established laboratory method.

- Colorimetry
- Ion-selective electrode (ISE)
- Single and multi-parameter titration
- Voltammetry
- Chemiluminescence or respirometry

## Parameters

### Hardness & Alkalinity

- Hardness (Total / Ca / Mg)
- Alkalinity (Free / Total)

### Nutrients

- Ammonium
- Nitrate
- Nitrite
- Phosphate
- Total Nitrogen
- Total Phosphorus

### Organics

- COD
- Phenol
- Volatile Fatty Acids (VFA)

### Special Parameters

- Adenosine Triphosphate (ATP)
- Microbial Activity
- Toxicity
- Colour

### Inorganics

- Chloride
- Cyanide
- Fluoride
- Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>)
- Silica
- Sulfate
- Sulfide

### Metals

- Aluminium
- Arsenic
- Boron
- Chromium
- Copper
- Iron
- Manganese
- Zinc



## Your Partner for Water Analysis in the Mining Industry

We offer you specific solutions to monitor, analyze, and ultimately control critical contaminants and water hardness throughout the life cycle of water in your mining operation - from de-watering to discharge. Our team of experts is here to assist you.

### Faster & Easier Access to The Instruments You Need.

Maximise convenience with access to a diverse selection of water-quality products and instruments through our [E-Shop](#).



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### Interested? Contact us today!

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