



*Be Right™*

**Water Quality**  
For People Around The World



# Water Quality & Analytics Equipment

Lab, Process, Online Analyzers, Reagents & More



Hach offers Analytics Equipment for Municipal and Industrial Applications:  
Drinking Water | Wastewater | Desalination | Industrial Water | Product Quality





# About HACH

Hach systems are designed to simplify analysis by offering sophisticated on-line instrumentation, accurate portable laboratory equipment, high-quality prepared reagents, complete easy-to-follow methods, and life-time technical support.

**With 85+ years of research, product innovation & expertise Hach offers cutting edge solutions for water quality & analysis.**

Whatever your industry,  
**Hach has total solutions**  
to solve your specific needs



**Veralto**

*Hach is an Operating Company of Veralto, a global leader in essential technologies.*



# INDEX

---

## Laboratory Instruments

Electrochem Meter	06
Colorimeters / Spectrophotometers	08
Flurometers	09
Turbidimeters	09
Lab TOC Analyzers	10
Sampler	10
Portable Parallel Analyzers	11
Digital Reactors	11
Titration	11

Chemistries / Reagents	12
------------------------	----

Online / Process instruments	19
------------------------------	----

Organic & Nutrients	20
Controller	21
Analyzers	22
Turbidity & Suspended Solids	23

Sensor Instruments	24
--------------------	----

pH/ORP/Conductivity	25
Dissolved Oxygen	25
Oil in Water	25

BioTector	26
-----------	----

Orbisphere	28
------------	----

Dissolved Oxygen Sensor (Optical)	28
Ozone	28
Controller	29
Portable / Lab Analyzer	29

EZ Series	30
-----------	----

Water Monitoring Panels	31
-------------------------	----

Standard Panel Solutions	32
RMC Disinfection Panel	33

Flow Diagram	34
--------------	----

Wastewater Treatment	35
Drinking Water Treatment	36
Industrial Water Treatment	37

## Key Measurement Parameters

For Power Plants	38
For Food Plants	38

Hach Solutions by Parameter	39
-----------------------------	----



# Better Water Quality

## From Municipal to Industrial

From large municipal facilities to microbreweries, Hach's solutions can be found on every continent in virtually any industry or application where water quality matters. Simply put, where there is water quality analysis, there is Hach.

### Municipal

#### Drinking Water

Hach's drinking water solutions include a complete portfolio for lab, online, field, and service applications. Our experts continue to innovate portable and online analyzers to help facilities maintain compliance, cut costs, and streamline operations.

#### Wastewater

Hach wastewater solutions, including our Real-Time Control Systems, nutrient sensors and analyzers, and spectrophotometers, provide the overarching information you need to make compliance and process control improvement easier.

#### More Municipal

- Education
- Military
- Private Water
- Central Labs

### Industrial

#### Food and Beverage

Our food and beverage portfolio, including lab, online, portable, and integrated solutions, delivers on your top priorities: higher product quality, less product loss, and compliance.

#### Power Generation

Paired with local field support, online analytics and lab verification cover the comprehensive parameters needed to help ensure maximum uptime and accurate measurement—promoting plant efficiency and compliance.

#### Chemical

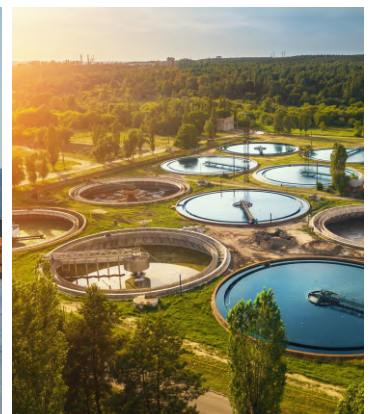
For chemical plants, Hach analytic solutions support environmental performance requirements with online and lab verifications as well as testing solutions that span all critical parameters.

#### More Industrial

- Oil and Gas
- Pulp and Paper
- Mining

### Engineering and Consulting

Hach's Engineering Design Tool helps engineering consultants make the best design choices and streamline the design process for faster, reliable project plans.







# Laboratory Instruments

---

- Meters
- Colorimeters / Spectrophotometers
- Digital Reactors
- Turbidimeters
- TOC Analyzers
- Chemistries / Reagents

# HQ Series 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.

## Parameter Table

Model	HQ1110 pH/ORP/ 1 Channel	HQ1130 DO/ 1 Channel	HQ1140 EC/TDS/ 1 Channel	HQ2100 Multi/ 1 Channel	HQ2200 Multi/ 2 Channel	HQ4100 Multi/ISE/ 1 Channel	HQ4200 Multi/ISE/ 2 Channel	HQ4300 Multi/ISE/ 1 Channel
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 Channel	HQ4100 Multi/ISE/ 1 Channel	HQ4200 Multi/ISE/ 2 Channel	HQ4300 Multi/ISE/ 1 Channel
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)							

## INTELLICAL: Digital electrodes with built-in temperature sensor

Model	Product description	Cable length	Article number	Cable length	Article number
pH	pH combination gel electrode, low maintenance	1 m	PHC10101	3 m	PHC10103
	pH combination refillable electrode	1 m	PHC30101	3 m	PHC30103
	pH combination refillable electrode for low ionic strength	1 m	PHC28101	3 m	PHC28103
Conductivity	Conductivity 4 pole cell, graphite	1 m	CDC40101	3 m	CDC40103
LDO	Luminescent DO sensor	1 m	LDO10101	3 m	LDO10103
LBOD	Luminescent BOD sensor	1 m	LBOD10101	3 m	
ORP	ORP Gel electrode, low maintenance	1 m	MTC10101	3 m	MTC10103
	ORP Refillable electrode	1 m	MTC30101	3 m	MTC30103
F <sup>-</sup>	Fluoride combination ion selective electrode	1 m	ISEF12101	3 m	ISEF12103
NO <sub>3</sub>	Nitrate combination ion selective electrode	1 m	ISENO318101	3 m	ISENO318103
Na <sup>+</sup>	Sodium combination ion selective refillable electrode	1 m	ISENA38101	3 m	ISENA38103
NH <sub>3</sub>	Ammonia combination gas-sensing electrode with refillable outer body	1 m	ISENH318101	3 m	SENH318103
NH <sub>4</sub>	Ammonium combination ion selective electrode	1 m	ISENH418101	3 m	ISENH418103
Cl <sup>-</sup>	Chloride combination ion selective electrode	1 m	ISECL18101	3 m	ISECL18103

## HQD Benchtop Multi-Parameter Meter

- Flexible benchtop meter makes lab testing of critical water quality parameters more efficient
- One or two input channels for simultaneous measurement of pH, conductivity, dissolved oxygen, BOD, ORP, ammonia, ammonium, fluoride, chloride, sodium, and temperature
- Enhance productivity with an ultra-bright screen and large font size to read results easily
- Internal USB ports simplify data transfer, peripherals



## BODTrak II Respirometric BOD Apparatus

- Simplify BOD analysis and decreases the total test time
- Greaseless bottle seal, large graphical display and small footprint
- BOD results are made easier to monitor with the large graphic display that continuously update results
- Constant stirring in the bottles supplier additional oxygen to sample, this is faster than dilution method
- The BODTrak II can fit six of 492 mL bottles



## Intellical Probes

- A revolutionary breakthrough in measurement of dissolved oxygen, eliminating numerous reliability and maintenance concerns inherent of older DO measurement technologies.
- Provide ultimate traceability in measurement history
- Moving between meters without the need to recalibrate or re-enter measurement settings is now possible with IntelliCAL™
- Measurement range: 0.05 ~ 20.00 mg/L



## Colorimeters / Spectrophotometers

### DR300 Colorimeter

- Single Parameter go-anywhere portable photometer Easy to install,
- 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.



### 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



### 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





## 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



## DR3900 Benchtop Spectrophotometer

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



## Fluorimeters

### DR1300FL Portable Fluorometer

The DR1300 FL features new fluorescence technology only from Hach. Handheld Fluorometer with innovative fluorescence technology for ultra-low range free & total chlorine and sulfite testing:

Free Chlorine: 2 - 100  $\mu\text{g/L Cl}_2$

Total Chlorine: 3 - 100  $\mu\text{g/L Cl}_2$

Sulfite: 6 - 500  $\mu\text{g/L SO}_3$

Protect Your Assets Monitor and Optimise Your Dechlorination Process  
Depend on Direct Measurements New Fluorescence Technology



## Turbidimeters

### 2100Q Portable Turbidimeter

- Easy on-screen assisted calibration and verification
- Accurate for rapidly settling samples
- Convenient data logging
- Optical system for precision in the field
- Resolution: 0.01 NTU (FNU) on lowest range
- Measurement range: 0 - 1000 NTU



### TL23 Series Benchtop Turbidimeters

- The TL23 Series large full color touch screen display and intuitive user interface accelerate setup, calibration and measurement
- The TL23 Series ensures stable readings and accurate analysis by capturing turbidity readings once the device detects sample stability
- With a USB port for easy data export, sample identification for traceability, and self-diagnostics for quality assurance



### TSS Portable Hand-held Turbidity, Suspended Solids, and Sludge Level System

- Suspended Solids: 0.001 to 400 g/L (1 to 400,000 mg/L)
- Three Parameters in One Instrument
- Multiple Calibration Curves for Convenience
- Easy Sludge Blanket Levels
- Air Bubble Compensation for Accuracy



## TU5 Series Laboratory Turbidimeter



- The 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 from test to test.
- Groundbreaking 360° x 90° Detection Technology
- Matching lab and online results
- Everything about turbidity – faster

## Lab TOC Analyzers

### QBD1200 + TOC Analyzer

Autosampler for use with QBD1200 Laboratory TOC Analyzer

- Custom calibration routine allows any combination of standards
- Save and reload custom calibration routines
- 5 replicate measurements are now available
- Manual measurement screen has graphs displayed
- Export data/user settings in XML format to support LIMS integration



#### Applications

- Drinking Water
- Semiconductor
- Power
- Clear Samples TOC

### QP1680 TOC/TN Analyzers

The QP1680 is available as a combined TOC and TN<sub>b</sub> analyser or for the individual parameters TOC or TN<sub>b</sub>.

- Direct sample injection eliminates sample contact with valves
- Small footprint with integrated 65-position auto-sampler requires less space in the laboratory
- Simple operation, data analysis and system diagnosis thanks to an intuitive software package.



#### Applications

- Wastewater

## Samplers

### 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





## Portable Parallel Analyzer (PPA)

Hach's Portable Parallel Analyzers (PPA) are innovative multiparameter water quality instruments that allow you to simultaneously perform colorimetric and probe-based measurements with less than half the manual steps. The instrument and corresponding Chemkey® reagents are easy to use regardless of technical expertise.

- Chemkey technology - no sample preparation required
- Faster testing
- Less variability
- EPA-approved for reporting of Free and Total Chlorine, and Fluoride

### SL250 Single-Port Portable Parallel Analyzer (PPA)

- Up to 3 parameters tested simultaneously

### SL1000 Portable Parallel Analyzer (PPA)

- Up to 6 parameters tested simultaneously



## Digital Reactors

### DRB200 Digital Reactor

- 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



Find more information  
about our Benchtop Instruments



SCAN ME

## Titration

### TitraLab AT1000 & KF1000Series

- The TitraLab AT1000 from Hach uses pre-set functions that eliminate complex programming and provide accurate 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
- Add the Titration Application Pack Food & Beverage to measure pH & Total Acidity (Milk, Tomato Sauce, Fruit Juice). Suited for Titralab AT1000 Series, and Automatic Titrator Models AT1102/AT1112/AT1122/AT1222.



### Titralab AS1000 Series Sample Changer

Perfect laboratory assistant for automating analyses

- Run sample analyses in total autonomy, without user intervention
- Single-radius sample trays for 12 samples
- Complete automation to free up your time





# Chemistries/ Reagents



# Chemistries, Reagents and Standards

## Test Results You Can Trust Every Time

So you can maintain regulatory compliance and ensure smooth plant operations.



Hach® is your trusted partner in water analysis with more than 85 years of chemistry expertise, offering the:

- Greatest variety of approved methods
- Most products with built-in error protection
- Broadest offering to meet every application and budget

## Certified Reference Materials

For critical applications and metrology needs, Hach offers Certified Secondary pH Standard Reference Buffer Solutions and Certified Conductivity Standards, Certified Reference Material (CRM) according to DIN EN ISO 17034:2017. The certificate is reporting the exact pH buffer value or conductivity value with related expanded uncertainty.

These CRM are available in a wide range of values and offer a unique extended shelf-life period thanks to a premium air-tight aluminium packaging.



*Certified Reference Material CRM pH Buffer IUPAC Standard Solution. Guaranteed shelf life thanks to airtight aluminium outer packaging.*



## TNTplus™ Chemistries

**No Reagent Blank Necessary** The high quality of TNTplus vials, tight reagent production controls, instrument calibration verification, and high instrument stability all combine to eliminate the need to run reagent blanks - saving you time and money!

**Reduced errors** Automatic method detection with bar-coded vials. Scratched, flawed, or dirty glassware becomes non-issue as instrument averages 10 readings and rejects outliers.

**Lot after Lot - Be Right** Truecal™ with each vial includes the calibration data for each individual lot, reducing variation in results.

**Safe handling** Innovative vial and reagent delivery significantly reduces spillage or contamination risk.

**Documented shelf life and COA** The barcode details batch number and expiry date of reagents, which are documented along with the measurement result.

# Hach Methods

## Quick Reference Guide

The tables on the following 5 pages list test ranges, methods of analysis, and corresponding reagent set Product Numbers. The complete procedures are available on [au.hach.com](http://au.hach.com). The ranges given are for the pre-calibrated instrument readout; higher ranges can be analyzed by sample dilution. Parameters marked "EPA" are USEPA-approved, accepted, or equivalent for reporting purposes; sample pretreatment may be required on some procedures. If no reagent set is listed for a parameter, order needed reagents and supplies separately.



Test	USEPA	Method	Number	Range	DR6000	DR3900	DR1900	DR900	DR300	SL 1000	Prod. No.
Alkalinity, Total (TNTplus)		Colorimetric	10239	25 - 400 mg/L	•	•	•				TNT870
Alkalinity, Total, LR (Chemkey)		Colorimetric	10280	20 - 200 mg/L						•	8636200
Alkalinity, Total, HR (Chemkey)		Colorimetric	10283	200 - 700 mg/L						•	8636100
Aluminum		Aluminon	8012	0.008 - 0.800 mg/L	•	•	•	•	•		2242000
Aluminum		Eriochrome Cyanine R	8326	0.002 - 0.250 mg/L	•	•	•				2603700
Aluminum (TNTplus)		Chromazurol S	10215	0.02 - 0.50 mg/L	•	•	•				TNT848-AU
ANAMMOX Activity (TNTplus)		Heme	10304	0-1000 mAbs	•	•	•				TNT882KTO-AU
Ammonia, Nitrogen		Salicylate	8155	0.01 - 0.50 mg/L	•	•	•	•	•		2668000
Ammonia, Nitrogen (TNTplus), ULR	•	Salicylate	10205	0.015 - 2.000 mg/L	•	•	•				TNT830-AU
Ammonia, Nitrogen	•	Nessler	8038	0.02 - 2.50 mg/L	•	•	•				2458200
Ammonia, Nitrogen (Test 'N Tube), LR		Salicylate	10023	0.02 - 2.50 mg/L	•	•	•	•			2604545
Ammonia, Nitrogen (TNTplus), LR	•	Salicylate	10205	1 - 12 mg/L	•	•	•				TNT831-AU
Ammonia, Nitrogen (Test 'N Tube), HR		Salicylate	10031	0.4 - 50.0 mg/L	•	•	•	•			2606945
Ammonia, Nitrogen (TNTplus), HR	•	Salicylate	10205	2 - 47 mg/L	•	•	•				TNT832-AU
Ammonia, Nitrogen (TNTplus), UHR	•	Salicylate	10205	47 - 130 mg/L	•	•	•				TNT833-AU
Ammonia, Nitrogen (TNTplus), UHR+	•	Salicylate	10301	100 - 1800 mg/L	•	•	•				TNT834-AU
Ammonia, Free (Chemkey)		Indophenol	10269	0.05 - 0.50 mg/L						•	9429600 <sup>2</sup>
Ammonia, Total (Chemkey)		Indophenol	10268	0.05 - 1.50 mg/L						•	9425200
Arsenic	•	Silver Diethyldithiocarbamate	8013	0.020 - 0.200 mg/L	•	•	•				See Method
Barium		Turbidimetric	8014	2 - 100 mg/L	•	•	•				1206499
Benzotriazole		UV Photolysis	8079	1.0 - 16.0 mg/L	•	•	•	•			2141299
Boron (TNTplus)		Azomethine-H	10274	0.05 - 2.50 mg/L	•	•	•				TNT877-AU
Boron		Carmine	8015	0.2 - 14.0 mg/L	•	•	•				1417099
Bromine		DPD	8016	0.05 - 4.50 mg/L	•	•	•	•	•		2105669
Bromine (AccuVac)		DPD	8016	0.05 - 4.50 mg/L	•	•	•	•	•		2503025
Cadmium (TNTplus) <sup>1</sup>		Cadion	10217	0.02 - 0.30 mg/L	•	•	•				TNT852-AU
Carbohydrazide		Iron Reduction	8140	5 - 600 µg/L	•	•	•	•			2446600
Chloramine, Mono, LR		Indophenol	10171, 10200	0.04 - 4.50 mg/L	•	•	•	•	•		2802246
Chloramine, Mono (Test 'N Tube), HR		Indophenol	10172	0.1 - 10.0 mg/L	•	•	•				2805145
Chloramine, Mono (Chemkey)		Indophenol	10270	0.04 - 4.00 mg/L						•	9429400
Chloride		Mercuric Thiocyanate	8113	0.1 - 25.0 mg/L	•	•	•				2319800
Chlorine, Free		Indophenol	10241	0.04 - 4.50 mg/L	•	•	•	•			2802299 + 2964926
Chlorine, Free	•	DPD	8021	0.02 - 2.00 mg/L	•	•	•	•	•		2105569
Chlorine, Free (AccuVac)	•	DPD	8021	0.02 - 2.00 mg/L	•	•	•	•	•		2502025
Chlorine, Free (Pour-Thru Cell)		DPD Rapid Liquid	10059	0.02 - 2.00 mg/L	•	•	•				2556900
Chlorine, Free (TNTplus)	•	DPD	10231	0.05 - 2.00 mg/L	•	•	•				TNT866-AU
Chlorine, Free (Test 'N Tube)		DPD	10102	0.09 - 5.00 mg/L	•	•	•				2105545
Chlorine, Free, MR	•	DPD	10245	0.05 - 4.00 mg/L	•	•	•	•	•		1407099

<sup>1</sup>As listed, test determines soluble metal.

<sup>2</sup>Free Ammonia Chemkeys can only be analyzed in tandem with the Monochloramine Chemkeys.

Test	USEPA	Method	Number	Range	DR6000	DR3900	DR1900	DR900	DR300	SL1000	Prod. No.
Chlorine, Free, HR	•	DPD	10069	0.1 - 10.0 mg/L	•	•	•	•	•		1407099
Chlorine, Free & Total (TNTplus)	•	DPD	10232	0.05 - 2.00 mg/L	•	•	•				TNT867-AU
Chlorine, Free (Chemkey)	•	DPD	10260	0.04 - 4.00 mg/L						•	9429000
Chlorine, Total (Pour-Thru Cell), ULR	•	DPD	8370, 10014	2 - 500 µg/L	•	•	•				2563000
Chlorine, Total	•	DPD	8167	0.02 - 2.00 mg/L	•	•	•	•	•		2105669
Chlorine, Total (AccuVac)	•	DPD	8167	0.02 - 2.00 mg/L	•	•	•	•	•		2503025
Chlorine, Total (Pour-Thru Cell)		DPD Rapid Liquid	10060	0.02 - 2.00 mg/L	•	•	•				2557000
Chlorine, Total (Test 'N Tube)		DPD	10101	0.09 - 5.00 mg/L	•	•	•				2105645
Chlorine, Total, MR	•	DPD	10250	0.05 - 4.00 mg/L	•	•	•	•	•		1406499
Chlorine, Total, HR		DPD	10070	0.1 - 10.0 mg/L	•	•	•	•	•		1406499
Chlorine, Total (Chemkey)	•	DPD	10260	0.04 - 10.00 mg/L						•	9429100
Chlorine Demand/Requirement	•	DPD	10223	Multiple Ranges	•	•	•	•	•		—
Chlorine Dioxide, DPD	•	DPD/Glycine	10126	0.04 - 5.00 mg/L	•	•	•	•	•		2770900
Chlorine Dioxide, LR		Chlorophenol Red	8065	0.01 - 1.00 mg/L	•	•	•				2242300
Chlorine Dioxide, MR		Direct Reading	8345	1 - 50 mg/L	•	•	•	•			—
Chlorine Dioxide, HR		Direct Reading	8138	5 - 1000 mg/L	•	•	•				—
Chromium, Hexavalent	•	1,5 Diphenylcarbohydrazide	8023	0.010 - 0.700 mg/L	•	•	•	•			1271099
Chromium, Hexavalent and Total (TNTplus)	• <sup>1</sup>	1,5 Diphenylcarbohydrazide	10218, 10219	0.03 - 1.00 mg/L	•	•	•				TNT854-AU
Chromium, Total		Alkaline Hypobromite Oxidation	8024	0.01 - 0.70 mg/L	•	•	•	•			2242500
Cobalt		PAN	8078	0.01 - 2.00 mg/L	•	•	•				2651600
COD, ULR		Dichromate	8000	0.7 - 40.0 mg/L	•	•	•				2415825
COD, LR	•	Dichromate	8000	3 - 150 mg/L	•	•	•	•			2125825
COD, HR	•	Dichromate	8000	20 - 1,500 mg/L	•	•	•	•			2125925
COD, HR+		Dichromate	8000	200 - 15,000 mg/L	•	•	•	•			2415925
COD		Manganese III	10067	30 - 1000 mg/L	•	•	•	•			2623425
COD in Salt Water (TNTplus), HR		Dichromate	10299	70 - 700 mg/L	•	•	•				TNT816-AU
COD (TNTplus), ULR		Dichromate	10211	1 - 60 mg/L	•	•	•				TNT820-AU
COD (TNTplus), LR	•	Dichromate	8000	3 - 150 mg/L	•	•	•				TNT821-AU
COD (TNTplus), HR	•	Dichromate	8000	20 - 1500 mg/L	•	•	•				TNT822-AU
COD (TNTplus), UHR		Dichromate	10212	250 - 15,000 mg/L	•	•	•				TNT823-AU
Color <sup>4</sup>		ADMI Weighted Ordinate	10048	3 - 250 units	•						—
Color, True and Apparent		Platinum-Cobalt	8025	15 - 500 units	•	•	•	•			—
Color, True and Apparent, LR <sup>5</sup>		Platinum-Cobalt	8025	3 - 200 units	•	•					—
Copper, LR		Porphyrin	8143	1 - 210 µg/L	•	•	•	•			2603300
Copper	•	Bicinchoninate	8506	0.04 - 5.00 mg/L	•	•	•	•			2105869
Copper (Chemkey)	•	Bicinchoninate	10272	0.6 - 5.75 mg/L						•	9429200
Cyanide		Pyridine-Pyrazalone	8027	0.002 - 0.240 mg/L	•	•	•	•			2430200
Cyanuric Acid		Turbidimetric	8139	5 - 50 mg/L		•	•	•			246066
DEHA (Diethylhydroxylamine)		Iron Reduction	8140	3 - 450 µg/L	•	•	•	•			2446600
Detergents (Surfactants)		Crystal Violet	8028	0.002 - 0.275 mg/L	•	•	•	•			2446800
Dissolved Oxygen (AccuVac), LR		Indigo Carmine	8316	0.04 - 4.50 mg/L	•	•	•	•			2501025
Dissolved Oxygen (AccuVac), HR		HRDO	8166	0.3 - 15.0 mg/L	•	•	•	•	•		2515025
Dissolved Oxygen (AccuVac), UHR		Ultra High Range	8333	1.0 - 40.0 mg/L	•	•	•				2515025
Erythorbic Acid (Isoascorbic Acid)		Iron Reduction	8140	13 - 1500 µg/L	•	•	•	•			2446600
Fluoride, Arsenic Free	• <sup>2,3</sup>	SPADNS 2	10225	0.02 - 2.00 mg/L	•	•	•	•			2947549
Fluoride, Arsenic Free (AccuVac)	• <sup>2,3</sup>	SPADNS 2	10225	0.02 - 2.00 mg/L	•	•	•	•			2527025
Fluoride	• <sup>3</sup>	SPADNS	8029	0.02 - 2.00 mg/L	•	•	•	•			44449
Fluoride (AccuVac)	• <sup>3</sup>	SPADNS	8029	0.02 - 2.00 mg/L	•	•	•	•			2506025
Formaldehyde		MBTH	8110	3 - 500 µg/L	•	•	•				2257700
Formaldehyde (TNTplus)		Acetylacetone	10295	0.5 - 10 mg/L H <sub>2</sub> CO	•	•	•				TNT871
Hardness, Total, ULR		Chlorophosphonazo Colorimetric	8374	8 - 1000 µg/L	•	•	•				2603100
Hardness, Total, ULR (Pour-Thru Cell)		Chlorophosphonazo Rapid Liquid	8167	4 - 1000 µg/L	•	•	•				See Method
Hardness, Ca & Mg		Calmagite Colorimetric	8030	0.05 - 4.00 mg/L	•	•	•	•			2319900
Hardness, Total, LR (Chemkey)		Calmagite Colorimetric	10284	3 - 100 mg/L						•	8636400

<sup>1</sup>EPA approved for Cr<sub>6+</sub> only. <sup>2</sup>Per 40 CFR 136.6 Method Modification and Flexibility. <sup>3</sup>Not EPA accepted for drinking water using the DR900 colorimeter.

<sup>4</sup>Others color scale available: CIE L\*a\*b, Hazen, Iodine, Gardner, Yellowness & EBC (Z). <sup>5</sup>Requires 5cm glass cell.



Test	USEPA	Method	Number	Range	DR6000	DR3900	DR1900	DR900	DR300	SL1000	Prod. No.
Hardness, Total, HR (Chemkey)		Calmagite Colorimetric	10285							•	8638400
Hardness, Water (TNTplus)		Metalphthalein	10293	20 - 350 mg/L as CaCO <sub>3</sub> 5 - 100 mg/L Ca 3 - 50 mg/L Mg	•	•	•				TNT869
Hydrazine		p-Dimethylaminobenzaldehyde	8141	4 - 600 µg/L	•	•	•	•			179032
Hydrogen Peroxide (H <sub>2</sub> O <sub>2</sub> ) <sup>1</sup>		DPD	10290	0.05 - 5.00 mg/L	•	•	•				1406499
Hydroquinone		Iron Reduction	8140	9 - 1000 µg/L	•	•	•	•			2446600
Iodine DPD		DPD	8031	0.07 - 7.00 mg/L	•	•	•				2105669
Iodine DPD (AccuVac)		DPD	8031	0.07 - 7.00 mg/L	•	•	•				2503025
Iron (TNTplus) <sup>2</sup>	•	Phenanthroline	10229	0.2 - 6.0 mg/L	•	•	•				TNT858-AU
Iron		FerroZine	8147	0.009 - 1.400 mg/L	•	•	•	•			230166
Iron (Pour-Thru Cell)		FerroZine Rapid Liquid	8147	0.009 - 1.400 mg/L	•	•	•				230149
Iron, Ferrous		1, 10 Phenanthroline	8146	0.02 - 3.00 mg/L	•	•	•	•			103769
Iron, Total		FerroMo	8365	0.01 - 1.80 mg/L	•	•	•	•			2544800
Iron, Total		TPTZ	8112	0.012 - 1.800 mg/L	•	•	•	•	•		2608799
Iron, Total	•	FerroVer	8008	0.02 - 3.00 mg/L	•	•	•	•	•		2105769
Iron, Total (AccuVac)	•	FerroVer	8008	0.02 - 3.00 mg/L	•	•	•	•	•		2507025
Iron, Total (5-cm Sample Cell)		1,10 Phenanthroline	10306	0.01 - 1.00 mg/L	•	•					HPT251
Iron, Total Dissolved (Chemkey)		1,10 Phenanthroline	10281	0.05 - 3.00 mg/L						•	8636000
Isoascorbic Acid (Erythorbic Acid) (ISA)		Iron Reduction	8140	13 - 1500 µg/L	•	•	•	•			2446600
Lead		LeadTrak Fast Column Extraction	8317	5 - 150 µg/L	•	•	•				2375000
Lead	•	Dithizone	8033	3 - 300 µg/L	•	•	•				2243100
Lead (TNTplus) <sup>2</sup>		PAR	10216	0.1 - 2.0 mg/L	•	•	•				TNT850-AU
Manganese, LR		PAN	8149	0.006 - 0.700 mg/L	•	•	•	•			2651700
Magnesium (TNTplus)		Metalphthalein	10292	0.5 - 50 mg/L Mg	•	•	•				TNT849
Mercury		Cold Vapor Mercury Concentration	10065	0.1 - 2.5 µg/L	•	•	•				2658300
Methylethylketoxime (MEKO)		Iron Reduction	8140	15 - 1000 µg/L	•	•	•	•			2446600
Molybdenum, Molybdate, LR		Ternary Complex	8169	0.02 - 3.00 mg/L	•	•	•	•	•		2449400
Molybdenum, Molybdate, HR		Mercaptoacetic Acid	8036	0.2 - 40.0 mg/L	•	•	•	•			2604100
Nickel		PAN	8150	0.006 - 1.000 mg/L	•	•	•	3			2651600
Nickel	•	Heptoxime	8037	0.02 - 1.80 mg/L	•	•	•				2243500
Nitrate, Nitrogen, LR		Cadmium Reduction	8192	0.01 - 0.50 mg/L	•	•	•	•			2429800
Nitrate, Nitrogen (TNTplus), LR	•	Dimethylphenol	10206	0.23 - 13.5 mg/L	•	•	•				TNT835-AU
Nitrate, Nitrogen, MR		Cadmium Reduction	8171	0.1 - 10.0 mg/L	•	•	•	•			2106169
Nitrate, Nitrogen		UV Screening	10049	0.1 - 10.0 mg/L	•						—
Nitrate, Nitrogen (Test 'N Tube), HR		Chromotropic Acid	10020	0.2 - 30.0 mg/L	•	•	•	•			2605345
Nitrate, Nitrogen, HR		Cadmium Reduction	8039	0.3 - 30.0 mg/L	•	•	•	•	•		2106169
Nitrate, Nitrogen (TNTplus), HR	•	Dimethylphenol	10206	5 - 35 mg/L	•	•	•				TNT836-AU
Nitrite, Nitrogen, LR	•	Diazotization	8507	0.002 - 0.300 mg/L	•	•	•	•			2107169
Nitrite, Nitrogen (Test 'N Tube), LR		Diazotization	10019	0.003 - 0.500 mg/L	•	•	•	•			2608345
Nitrite, Nitrogen (TNTplus), LR	•	Diazotization	10207	0.015 - 0.600 mg/L	•	•	•				TNT839-AU
Nitrite, Nitrogen (TNTplus), HR	•	Diazotization	10237	0.6 - 6.0 mg/L	•	•	•				TNT840-AU
Nitrite, Nitrogen (TNTplus), UHR	•	Diazotization	10296	2 - 90 mg/L	•	•	•				TNT841-AU
Nitrite, Nitrogen, HR		Ferrous Sulfate	8153	2 - 250 mg/L	•	•	•	•			2107569
Nitrite, Nitrogen (Chemkey)		Diazotization	10271	0.005 - 0.600 mg/L						•	9429300
Nitrogen, Ammonia (see Ammonia, Nitrogen)											
Nitrogen, Total (Test 'N Tube), LR		Persulfate Digestion	10071	0.5 - 25.0 mg/L	•	•	•	•			2672245
Nitrogen, Total (TNTplus), LR		Persulfate Digestion	10208	1 - 16 mg/L	•	•	•				TNT826-AU
Nitrogen, Total (TNTplus), HR		Persulfate Digestion	10208	5 - 40 mg/L	•	•	•				TNT827-AU
Nitrogen, Total (Test 'N Tube), HR		Persulfate Digestion	10072	2 - 150 mg/L	•	•	•	•			2714100
Nitrogen, Total (TNTplus), UHR		Persulfate Digestion	10208	20 - 100 mg/L	•	•	•				TNT828-AU
Nitrogen, Total Inorganic (TIN) (Test 'N Tube)		Titanium Trichloride Reduction	10021	0.2 - 25.0 mg/L	•	•	•	•			2604945
Nitrogen, Simplified TKN (TNTplus)	•	s-TKN	10242	0 - 16 mg/L	•	•	•				TNT880-AU
Nitrogen, Total Kjeldahl (TKN)		Nessler	8075	1 - 150 mg/L	•	•	•	•			2495300

<sup>1</sup>Requires Product. No. 193332 & 1456842. <sup>2</sup>As listed, test determines soluble metal.<sup>3</sup>Nickel PAN method reagent set for DR 900 is Prod. No. 2242600.

Test	USEPA	Method	Number	Range	DR6000	DR3900	DR1900	DR900	DR300	SL1000	Prod. No.
Organic Carbon, Total (See TOC)											
Organic Constituents, UV-Absorbing (UV-254)		Direct Reading	10054	Varies-Units Abs/cm	•						—
Oxygen Demand, Chemical (See COD)											
Oxygen, Dissolved (See Dissolved Oxygen)											
Oxygen Scavengers (See specific compounds)											
Ozone (AccuVac), LR		Indigo	8311	0.01 - 0.25 mg/L	•	•	•	•	•		2516025
Ozone (AccuVac), MR		Indigo	8311	0.01 - 0.75 mg/L	•	•	•	•	•		2517025
Ozone (AccuVac), HR		Indigo	8311	0.01 - 1.50 mg/L	•	•	•	•			2518025
Peracetic Acid (PAA) <sup>1</sup>		DPD	10290	0.10 - 10.00 mg/L	•	•	•				1406499
Peracetic Acid (PAA) (Chemkey)		DPD	10297	0.04 - 50.00 mg/L						•	8635200
pH (Chemkey)		Colorimetric Phenol Red	10298	10298 6.3 - 9.0 units						•	9759000
pH		Colorimetric Phenol Red	10076	6.5 - 8.5 units				•			2657512
Phenols	•	4-Aminoantipyrine	8047	0.002 - 0.200 mg/L	•	•	•				2243900
Phosphonates		Persulfate UV Oxidation	8007	0.02 - 125.0 mg/L	•	•	•	•			2429700
Phosphorus, Reactive	•	PhosVer 3	8048	0.02 - 2.50 mg/L	•	•	•	•	•		2106069
Phosphorus, Reactive (AccuVac)	•	PhosVer 3	8048	0.02 - 2.50 mg/L	•	•	•	•	•		2508025
Phosphorus, Reactive (Test 'N Tube)	•	PhosVer 3	8048	0.06 - 5.00 mg/L	•	•	•	•			2742545
Phosphorus, Reactive		Amino Acid	8178	0.23 - 30.00 mg/L	•	•	•	•			2244100
Phosphorus, Reactive (5-cm Sample Cell)		Ascorbic Acid	10307	0.01 - 0.50 mg/L	•	•					HPT487
Phosphate, LR (Chemkey)		Ascorbic Acid	10279	0.20 - 4.00 mg/L						•	8636600
Phosphate, HR (Chemkey)		Ascorbic Acid	10282	2.0 - 30.0 mg/L						•	8636500
Phosphorus, Reactive		Molybdovanadate	8114	0.3 - 45.0 mg/L	•	•	•	•			2076032
Phosphorus, Reactive (Test 'N Tube), HR		Molybdovanadate	8114	1.0 - 100.0 mg/L	•	•	•	•			2767345
Phosphorus, Reactive (Pour-Thru Cell), HR		Molybdovanadate Rapid Liquid	8114	0.3 - 45.0 mg/L	•	•	•				2076049
Phosphorus, Reactive (Pour-Thru Cell), LR	•	Ascorbic Acid Rapid Liquid	10055	19 - 3000 µg/L	•	•	•				2678600
Phosphorus, Reactive (TNTplus)		Molybdovanadate	10214	5.0 - 90.0 mg/L	•	•	•				TNT846-AU
Phosphorus, Acid Hydrolyzable (Test 'N Tube)		PhosVer 3 with Acid Hydrolysis	8180	0.06 - 3.50 mg/L	•	•	•	•			2742645
Phosphorus, Total (Test 'N Tube)	•	PhosVer 3 with Acid Persulfate Digestion	8190	0.06 - 3.50 mg/L	•	•	•	•			2742645
Phosphorus, Total (Test 'N Tube), HR		Molybdovanadate with Acid Persulfate Digestion	10127	1.0 - 100.0 mg/L	•	•	•	•			2767245
Phosphorus, Reactive and Total (TNTplus), LR	•	Ascorbic Acid	10209, 10210	0.15 - 4.50 mg/L	•	•	•				TNT843-AU
Phosphorus, Reactive and Total (TNTplus), HR	•	Ascorbic Acid	10209, 10210	1.5 - 15.0 mg/L	•	•	•				TNT844-AU
Phosphorus, Reactive and Total (TNTplus), UHR	•	Ascorbic Acid	10209, 10210	6 - 60 mg/L	•	•	•				TNT845-AU
Potassium		Tetraphenylborate	8049	0.1 - 7.0 mg/L	•	•	•				2459100
Quaternary Ammonium Compounds		Direct Binary Complex	8337	0.2 - 5.0 mg/L	•	•	•				2459200
Silica (Pour-Thru Cell), ULR		Heteropoly Blue	8282	3 - 1000 µg/L	•	•	•				2553500
Silica (Pour-Thru Cell), ULR		Heteropoly Blue Rapid Liquid	8282	3 - 1000 µg/L	•	•	•				2678500
Silica, LR		Heteropoly Blue	8186	0.010 - 1.600 mg/L	•	•	•	•			2459300
Silica, HR		Silicomolybdate	8185	1 - 100 mg/L	•	•	•	•			2429600
Silver		Colorimetric	8120	0.02 - 0.70 mg/L	•	•	•				2296600
Sulfate	•	SulfaVer 4	8051	2 - 70 mg/L	•	•	•	•			2106769
Sulfate (TNTplus), LR		Turbidimetric	10227	40 - 150 mg/L	•	•	•				TNT864-AU
Sulfide	•	Methylene Blue	8131	5 - 800 µg/L	•	•	•	•			2244500
Surfactants (See Detergents)											
Surfactants, Anionic (TNTplus)		Methylene Blue (MBA)	8131	0.1 - 4.0 mg/L	•	•	•				TNT874-AU
Surfactants, Cationic (TNTplus)		Cetyltrimethylammonium Bromide	10305	0.2 - 2.0 mg/L	•	•	•				TNT885-AU
Surfactants, Nonionic LR (TNTplus)		TBPE	10275	0.2 - 6.0 mg/L as Triton x 100	•	•	•				TNT875-AU
Suspended Solids		Photometric	8006	5 - 750 mg/L	•	•	•	•			—
Tannin & Lignin		Tyrosine	8193	0.1 - 9.0 mg/L	•	•	•	•			2244600

<sup>1</sup>Requires Product. No. 193332 & 1456842.

Test	USEPA	Method	Number	Range	DR6000	DR3900	DR1900	DR900	DR300	SL1000	Prod. No.
TKN (See Nitrogen, Simplified TKN and Nitrogen, Total Kjeldahl)											
TOC (Total Organic Carbon), LR		Direct Method	10129	0.3 - 20.0 mg/L	•	•	•	•			2760345
TOC - Total Organic Carbon (TNTplus), LR	•	Direct Method	10267	1.5 - 30 mg/L	•	•	•				TNT810-AU
TOC (Total Organic Carbon), MR		Direct Method	10173	15 - 150 mg/L	•	•	•	•			2815945
TOC (Total Organic Carbon), HR		Direct Method	10128	100 - 700 mg/L	•	•	•	•			2760445
Tolytriazole		UV Photolysis	8079	1.0 - 20.0 mg/L	•	•	•	•			2141299
Toxicity		ToxTrak	10017	0 - 100 % inhibition	•	•	•	•			2597200
Trihalomethanes (THM)		THM Plus	10132	10 - 600 µg/L	•	•	•				2790800
Trihalomethane Formation Potential (THMFP)		THM Plus	10224	10 - 600 µg/L	•	•	•				2790800
Volatile Acids		Esterification	8196	27 - 2800 mg/L	•	•	•	•			2244700
Volatile Acids (TNTplus)		Esterification	10240	50 - 2500 mg/L	•	•	•				TNT872-AU
Zinc	•	Zincon	8009	0.01 - 3.00 mg/L	•	•	•	•	•	•	2429300

**Easy Online Ordering,  
Favorites Management,  
Customized Pricing**

Maximize Convenience  
on Our E-shop



*Did you know that you can order  
reagents online in just a few clicks?*

**Shop now**



**pick & ship™**

Want a simpler  
way to stock your  
supplies?

*Never run out of reagents with  
our pick & ship subscription program.*

**Learn More**







# Online/Process Instruments

---

- Organic & Nutrients
- Controller
- Inorganic
- Analyzers
- Turbidity & Suspended Solids

## UVAS sc Sensor, 1 mm, 2 mm or 5 mm, with sc4500 Controller

Continuous UV 254 Absorbance/Transmittance measurements with the UVAS sc Sensor can be used to protect plant treatment processes from high organic loads or for surrogate BOD, COD, and TOC measurements, with repeatable, accurate measurement.

- On-line analysis allows treatment plants to operate more efficiently
- Flow through design with no sample chamber and self-cleaning wipers



## A-ISE sc

A-ISE sc Low cost ISE Ammonium probe (immersion) with RFID, 10 m cable

- Cost-Effective Trending Information
- Minimal Maintenance with Simple Cartridge Replacement
- Easy to perform, fail-safe calibration corrections compensate for naturally occurring calibration drift in ISE instruments



## N-ISE sc

N-ISE sc Low cost ISE Nitrate probe (immersion) without RFID, 10 m cable

- Carries out continuously direct measurements using an ion-selective electrode.
- The special feature of the probe is the Cartrical technology. This provides reliable measured values and considerably reduced maintenance time and costs in comparison with conventional ISE probes..
- Trustable results for ammonium and nitrate
- Easy handling with Cartrical cartridge plus
- Simple and intuitive operation
- Always under control



## NH6000sc Ammonia Analyzer

- Four measurement range options between 0.02 mg/L and 1000mg/L
- One or two sample stream options available
- Robust and lightweight integrated filter options
- Improved features including flow detection and automated grab sampling
- Reduced six monthly maintenance schedule



## HACH BioTector TOC Analyzer

- Provides low maintenance
- Self-cleaning technology prevents Clogging and Sample Contamination
- Analyze without filtering; for measuring of clean and dirty water
- Recommended Application: Industrial, Wastewater, Food & Beverage, Mining, Airports, chemical, petrochemical and Refining.



## Amtax sc

Amtax sc Ammonium Analyzer, 0.05-20 mg/L NH<sub>4</sub>-N, One Channel Continuous Sample, 115-230 VAC

- Hach's Amtax Ammonium Analyzer provides a wide measurement range for a variety of wastewater applications.
- Low detection limit of 0.05 mg/L.
- Environmentally controlled for rugged, outdoor installations. Designed specifically for easy installation at the measurement point.
- Automatic cleaning and calibration every day.
- Easy access to reagents and wear parts.
- Multiple ranges, single and dual channel versions available.



## NT3100sc UV Nitrate Sensors

- Improved accuracy and a lower limit of detection at 0.02 mg/L\* to optimize your plant's performance. Be prepared with lower discharge limits to support regulatory compliance now and in the future. (\*Based on NT3100sc 5mm model)
- Our enhanced technology allows for extended service life of parts and reduces maintenance with simplified, tool-free, wiper replacement.





## AN-ISE

AN-ISE sc Low cost ISE combination Ammonium and Nitrate probe (immersion) with RFID, 10 m cable

Two-in-one low maintenance sensor measures both ammonium and nitrate at the same time.

- Accurate results for ammonium and nitrate
- Easy handling with Cartrical cartridge plus
- Simple and intuitive operation
- Always under control
- Rely on Hach's application know how



## Phosphax sc

Phosphax sc Phosphate Analyzer, 0.05-15 mg/L PO<sub>4</sub>-P, One Channel Continuous Sample, 115-230 VAC

- Multiple measurement ranges for a variety of wastewater applications
- Low cost of operation with proven yellow method
- Generate actionable insights from measurement data
- Easy installation at the measurement point
- Low maintenance
- Multiple ranges, single and dual channel versions available.



## 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





## CL17sc Analyzer

Free or Total Chlorine Confidence. From the Global Leader in Chlorine Analysis.

### Enhanced Connectivity

Compatibility with the SC controller platform, giving users more flexibility to store, transfer, and interact with their process chlorine data.

### Maintenance Made Easy

Reduces your routine maintenance touch time with simplified tubing replacement and step-by-step, on-screen workflows.

### Flow Sensor

A built-in flow meter to notify you when there's an unexpected change in flow that could compromise your measurements. The CL17sc is compliant with US EPA regulation 40 CFR 141.74. Both method 4500-CL G and method 334.0 can be used for measuring residual chlorine in drinking water.



## CLF10 sc • CLT10 sc

CLF10 sc Free Chlorine Sensor, SC200 Controller and Stainless Steel Panel with pH Differential Sensor

Hach's CLF10 sc and CLT10 sc provide online amperometric solutions for real-time analysis of free or total chlorine in disinfection applications.

- The CLF10 sc Free Chlorine Analyzer and CLT10 sc Total Chlorine Analyzer are based on amperometric technology and is fully compatible with all Hach digital controllers.
- The CLF10 sc can be used in most municipal and industrial applications and is best utilized where waste stream management is a constraint.
- EPA-approved Free or Total Chlorine Analysis
- No Reagents to Replace, No Waste Stream
- Chlorine Analysis Made Easy



## NA5600 sc

NA5600sc Sodium Analyzer, 1-channel, with Autocalibration, panel mount

### Optimize Operation and Response Time with Automatic Electrode Reactivation

To maintain optimum response time and accuracy, the NA5600sc analyzer provides automatic electrode reactivation. Reactivation uses non-hazardous chemicals and eliminates the need for manual reactivation or electrode etching.

- **Space-Saving Design** : Smaller instrument footprint with streamlined layout to allow for easy integration into existing or new sites.
- **Low Maintenance** : Maintenance of the NA5600sc Sodium Analyzer requires reagent replenishment only every 90 days and annual replacement of reagent tubing and the sodium electrode.
- **Avoid Downtime** : Predictive diagnostic tools, including Hach's proprietary Prognosys technology, warning LEDs, and high visibility notification screens let you avoid unplanned downtime.



## Ultra Low Range CL17sc Colorimetric Chlorine Analyzer

- New Ultra-Low Range CL17sc provides better accuracy in the parts-per-billion measurement range.
- With upgraded features like a flow meter, colorimeter window, multicolor status light, and predictive diagnostic software, you know your instrument is operating as intended.



### \*Accuracy at Lower Range

With accuracy in the parts-per-billion measurement range, you can take control of your decoloring on process, protect your assets from chlorine damage, and meet strict residual chlorine limits.

### \*Cumulative Chlorine Counter™

Understand the true impact of chlorine exposure on downstream assets over time by tracking chlorine exposure in ppm-hours.

### \*Parts per Billion Reading

Eliminate reading confusion when process adjustments and chlorine discharge require ultra low range control.

## AMC / Silica Analyzer 5500 sc

5500sc Silica Analyzer, 1 Channel, Reagents included

- 90 Days of Continuous Run Time
- Save Time on Maintenance
- Clean, Fast and Easy Reagent Change
- Verify Easily with Hach Lab Products So You Don't Waste Time Second-guessing
- AMC (Ammonia Monochloramine) available single and dual channel version



## SP510 Hardness Analyzer (10 mg/L trip point)

Maximize your softener cycle time and minimize your regeneration cost.

The SP510 Analyzer makes your water softening system more efficient and less costly. It's reliable, simple and accurate with automated calibration and continuous monitoring.

- Continuous Hardness Detection
- Simple to Read and Use
- Rugged, lightweight, and self-contained
- Making Water Softening Systems Cost-efficient
- Low Maintenance Requirements



## ULTRATURB seawater sc Turbidimeter

Suitable for low to medium turbidity applications.

- Large measuring range—0 to 1,000 NTU
- Self-cleaning sample chamber option
- Stable/long lasting light source with IR ratio technology
- Updated for desalination applications
- Corrosion resistant to salinity up to 65 g/L



## Surface Scatter 7 sc

- The Surface Scatter 7 sc High Range Turbidimeter offers superior performance across a measurement range of 0 to 9999 NTU.
- This design minimizes sensitivity loss due to high turbidity samples; in fluids with high loads of suspended solids the design makes sample cell cleaning and replacement unnecessary.
- Surface Scatter 7 sc HST is designed to monitor samples with temperatures of up to 70°C.
- Its innovative moist air removal system is useful where a difference between the sample temperature and the ambient temperature causes condensation and fogging.



## Solitax® sc

- Designed for the accurate determination of turbidity and suspended solids
- Accordance with DIN EN ISO.
- Using the infrared duo scattered light method
- Solitax sc sensors can be connected to all SC controllers
- Self-cleaning wiper



## TU5 Series Turbidimeter

- Continuously flowing sample flows through with groundbreaking 360° x 90° detection™ Technology
- Everything about turbidity - faster
- Maintenance and cleaning is easy
- Matching lab and online results
- Recommended Applications: Drinking, Pure and Industrial Water
- Measurement range:
  - EPA version 0 to 700 NTU
  - ISO version 0 to 1000 NTU



## SONATAX sc PROBE

Low-maintenance sludge level monitor delivers superior accuracy.

- For a continuous ultrasonic measurement of sludge blanket level
- Reduced maintenance with innovative wiper design
- Superior accuracy with automatic frequency adjustment
- Digitized probe, temperature compensation, and position sensor ensure reliability
- Visual performance indicator enhances troubleshooting
- The digital ultrasonic probe Sonatux sc continuously measures the sludge level or the sludge height.



## TSS sc

- Made of highly polished stainless steel or titanium
- Two channel 90° scattered light turbidity method
- Accordance with DIN EN ISO 7027.
- Integrated bubble and temperature compensating software







# Sensor Instruments

---

- pH/ORP/Conductivity
- Dissolved Oxygen
- Oil in Water



## pH Encapsulated Sensor

- LCP (Liquid Crystal Polymer)
- Convertible Mounting Style
- 3 Meter Analog Cable
- 5-Wire with Built-In Preamp
- 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 ( $0.057 \mu\text{S}/\text{cm}$  or  $18.2 \text{ M}\Omega$ ) up to  $200,000 \mu\text{S}/\text{cm}$



## 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  $2,000,000 \mu\text{S}/\text{cm}$ . 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  $2,000,000 \mu\text{S}/\text{cm}$ . 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



## 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

## Oil in Water

### FP360 sc Oil in Water Sensor

Continuous oil-in-water monitoring for the right price

Designed to detect traces of mineral oils in water. Monitors surface water, process water and industrial water continuously.

- Lowest Cost of Ownership
- The Right Technology for the Right Price
- Minimal Maintenance
- Reduced Laboratory Testing
- High Sensitivity and Selectivity



# BioTector

- **Intelligent design** oversized sample tubing handles even the most challenging applications, including limited amounts of fats, oil, and grease (FOG)
- **Advanced functionality** direct reporting of % removal (B3500dw), and reporting of TOC correlated parameters such as BOD and COD
- **Powerful sample breakdown** patented Two-Stage self-cleaning oxidation technology (TSAO) is 40% more effective at oxidizing samples than analyzers
- **Low cost of ownership** designed for continuous operation, the TOC BioTector requires part replacement only twice a year in many applications
- **Superior reliability** typically 99.86% uptime enables plants to leverage results for continuous process control
- **Worldwide service and support through Hach** with installations at leading manufacturers around the world

## Recommended Application

- Industrial
- Wastewater
- Drinking Water
- Food & Beverage
- Pulp & Paper
- Pharmaceutical
- Mining
- Airports and Chemical
- Petrochemical
- Refining

## Industrial BioTector Selection Guide



	B7000i	B7000i Dairy	B3500c	B3500ul
<b>Applications</b>	<ul style="list-style-type: none"> <li>Industrial Wastewater Treatment Plant Influent and Effluent</li> <li>Process Water</li> <li>Product Loss Control</li> <li>Oil in Water</li> </ul>	<ul style="list-style-type: none"> <li>Product Loss Control</li> <li>Dairy Wastewater</li> </ul>	<ul style="list-style-type: none"> <li>Condensate Return</li> <li>Cooling Water</li> <li>Boiler Feed Water</li> <li>Demineralized Water</li> <li>Reverse Osmosis Water</li> <li>Carbon Bed Absorber</li> </ul>	<ul style="list-style-type: none"> <li>Pharma</li> <li>Power</li> <li>Electronics</li> <li>Ultrapure Water</li> </ul>
<b>TOC Range</b>	0- 100 up to 0- 20,000 ppm	0- 100 up to 0- 20,000 ppm	0- 25 or 100 ppm	0- 5 ppm
<b>TOC Mode</b>	TIC/TOC, TC, VOC *	TIC/TOC, TC, VOC *	TIC/TOC, TC, VOC	TIC/TOC, TC, VOC
<b>Two-Stage Advanced Oxidation</b>	Yes	Yes	Yes	Yes
<b>Self Cleaning</b>	Reactor & Sample Tubing	Reactor & Sample Tubing	Reactor	Reactor
<b>Sample Characteristic</b>	<2 mm articles Dirty Fat, oil, greases, sludge and salts pH swings	<2 mm articles Dirty Fat, oil, greases, sludge and salts pH swings	<100 µm particles Clean Free of fat, oil, greases, stable pH	No particles Very Clean Free of fat, oil, greases, stable pH
<b>Number of Streams</b>	6	6	2	2

\*Configurations to measure TP/TN also available. COD/BOD measurement via correlation

# Municipal Biotector Selection Guide



	B7000i	B7000 TN, TP, TN/TP	B3500dw
<b>Applications</b>	<ul style="list-style-type: none"> <li>Municipal Wastewater Influent – organic load</li> <li>Effluent – Discharge monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Municipal WW Influent – organic, N, P loads</li> <li>Eff Discharge Control</li> <li>C/N/P ratio nutrient dosing control</li> </ul>	<ul style="list-style-type: none"> <li>Drinking Water Influent</li> <li>Drinking Water Effluent</li> <li>% TOC removal 2 stream (minimizing DBPs)</li> </ul>
<b>TOC Range</b>	0 – 100 up to 0 – 20,000 ppm	0 – 50, 100, 250, 1,000, 2,000 and 10,000 ppm	0 – 25 ppm
<b>TOC Mode</b>	TIC/TOC, TC	TIC/TOC, TC	TIC, TOC, %TOC removal,
<b>Self Cleaning</b>	Reactor & Sample Tubing	Reactor & Sample Tubing	Reactor
<b>Sample Requirement</b>	<2mm particles Dirty, Fats, O&G, sludge, salts, pH swings	<2mm particles Dirty, Fats, O&G, sludge, salts, pH swings	<100um particles Clean, Free of Fats, O&G, sludge, salts, stable pH
<b>Number of Streams</b>	6	3 TOC/TN/TP 6 TOC/TN	2



# Orbisphere

## Orbisphere K1100 (Industrial)

The Orbisphere K1100 optical sensor together with the Orbisphere 410 controller offers a new way of monitoring oxygen in power plants. Orbisphere sensors set the industry standards for oxygen measurement by offering peace of mind to every water chemist.



- One calibration per year
- No membranes = two minutes of maintenance
- Low-cost retrofit

## Orbisphere GA2x00 Oxygen Sensors

The Orbisphere GA2400/GA2800 EX oxygen (O<sub>2</sub>) Electrochemical (EC) sensors are designed for process monitoring as well as laboratory analysis in the liquid or gas phases across.

The Orbisphere GA2400 O<sub>2</sub> EC-sensor can be used for a wide range of applications from beer or soft-drinks production to rinsing of semiconductor wafers in chip-manufacturing plants, reactor coolant systems in nuclear power plants etc.

The GA2800 EX sensor is suitable for harsh environments from chemical or oil to petrochemical plants.

## Orbisphere M1100 (Food & Beverage)

The Orbisphere M1100 Luminescent dissolved oxygen analyzer, together with the Orbisphere 410 one channel and the Orbisphere 510 multichannel controller, offers a new way of monitoring oxygen in the beverage production process. The M1100 model optical sensor has an unbeatable precision of 0.8 ppb and a limit of detection of 0.6 ppb. Such accurate measurement readings are essential to control low oxygen levels in beer. The absence of membrane and electrolyte means that the analyzer accuracy is unaffected by process changes or pressure shocks. The dissolved oxygen analyzer has been designed to optimize its total cost of ownership.



- Minimal Drift and Annual Calibration
- Minimal Maintenance Optical Technology
- Low Level Oxygen Measurement with Accurate ppb
- High Level Oxygen Measurement with Accurate ppm



## Ozone



## Orbisphere C1100 Ozone sensor

The Orbisphere C1100 sensor is designed to measure ozone in ultra-pure water loops, or in the sanitizing phase of any beverage production line.

This unique sensor does not require a specific set up or skilled operators for in-line operation.

- True Zero - drift free and accurate measurements
- Fast, easy, traceable and reliable calibration
- Low-cost maintenance
- Unbeatable reliability



## Orbisphere 315xx Nitrogen Sensors

The unique Orbisphere Thermal Conductivity sensor has been developed to give continuous N<sub>2</sub> measurements in gas phase or dissolved in a liquid. The measuring technique is a combination of a gas diffusion membrane and a solid-state gas thermal conductivity detector.

- Continuous N<sub>2</sub> measurements
- Selective measurement, result unaffected by the presence of other gases
- Fast response time to improve plant productivity
- Compact design for easy insertion into a process line or a flow chamber

## Orbisphere 410/510 Controller (Portable, Wall, Panel Mount)

Designed to complement Orbisphere® high quality sensors, the Orbisphere patented Thermal Conductivity sensor has been developed to give continuous CO<sub>2</sub>, N<sub>2</sub> or O<sub>2</sub> measurement in gas phase or dissolved in a liquid.

The measuring technique is a combination of a gas diffusion membrane and a solid-state gas thermal conductivity detector.



## Hach Orbisphere 6110 Total Package Analyzer

- Fast, Effective operation with touch-screen interface
- The package positioning aid with laser crosshairs confirms optimal placement
- latest technology in final package analysis for measurements of Total Package Oxygen, Headspace Oxygen and Dissolved Oxygen



## Portable / Lab Analyzer

### Orbisphere 3100 Portable Oxygen Analyzer

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
- User friendly instrument with colour display
- Ideal for process spot check by plant operator



### Orbisphere 3650/3655 Portable Oxygen Analyzer

3650/3655 handheld analyzer measures both saturated and trace level (down to 1 ppb) concentrations of oxygen in gases and liquids accurately. Stores up to 500 measurements. Rechargeable batteries allow up to 40 hours of continuous operation.

- Unrivalled accuracy and response time for fast detection of process change
- No warm up necessary for accurate measuring
- Unique design allows for extended period between recharges
- Sensor refurbishment takes 3 minutes with pre-filled recharge cartridge
- Waterproof, super-sturdy, lightweight analyzer
- ATEX System



# EZ Series Online Analyzers

## Your Complete Solution

## Monitoring Solutions for Industrial and Municipal Applications

- **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

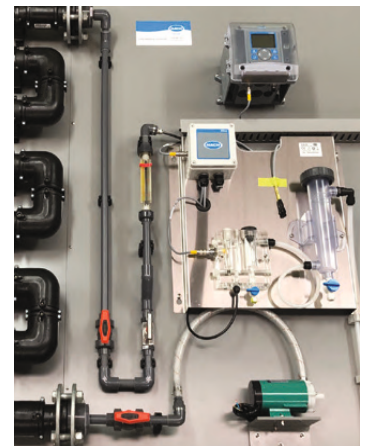
### Inorganics

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

### Metals

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





# Water Monitoring Panels

- Standard Panel Solutions
- RMC Disinfection Panel

# Hach® Standard Water Panels

## Hach Standard Panel Solutions



- **Peace of Mind:** Hach's Standard Panels minimize the risk of wrong installations by offering a fully assembled panel.
- **Up and Running in No Time:** Ready to install, the pre-engineered design secures optimized measurement conditions for the operator and minimizes time to teach and learn.
- **Reliable:** The desired sample flow guarantees reliable and stable results.
- **Quality from Start to Finish:** The panels are manufactured locally in Victoria, Australia, which means a high-quality product and services from a single source.

### Standard Wet Racks - Panels for e-Chem Solutions

These panels are for e-Chem solutions and are available in various configurations, with an option of either galvanised steel or a stainless steel enclosure.

### Standard Wet Racks - Single Panels for Turbidity Solutions

The single panels for turbidity solutions are available in various configurations, with an option of either galvanised steel or a stainless steel enclosure.

### Standard Wet Racks - Panels for Disinfection Solutions

These panels are for disinfection solutions and are available in various configurations, with an option of either galvanised steel or a stainless steel enclosure.

And then have the eChem Panels and Nitratax/Solitax/UVAS.

### Standard Wet Racks - Panels for Nitratax/ Solitax /UVAS

These panels are for Nitratax/ Solitax /UVAS solutions and are available in various configurations. With an option of either galvanised steel or a stainless-steel enclosure.

### Standard Wet Racks - Combo Panels for Treated Water and Drinking Water Applications

The combo panels for treated water and drinking water applications are available in various configurations, with an option of either galvanised steel or a stainless steel enclosure.

# RMC Disinfection Panel – for offsite calibrations/verifications & adjustments

A time-saving total solution for online chlorine measurement with remote access to calibrate and adjust – without the hassle of being on site

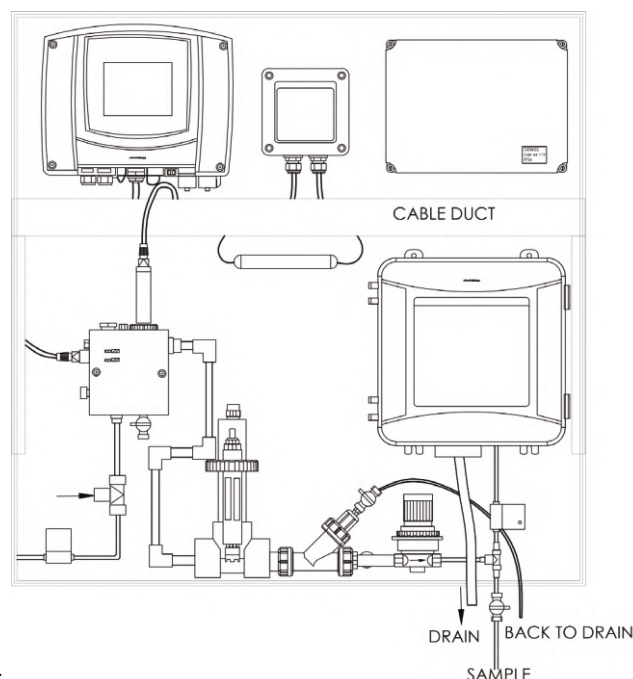
The new Hach® RMC Disinfection Panel allows you convenient real-time control and calibrations from your office. No need to travel on site, you can make your adjustments very conveniently from your desktop. Extremely reliable and time-saving, equipped with two high performing chlorine analyzers, easy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



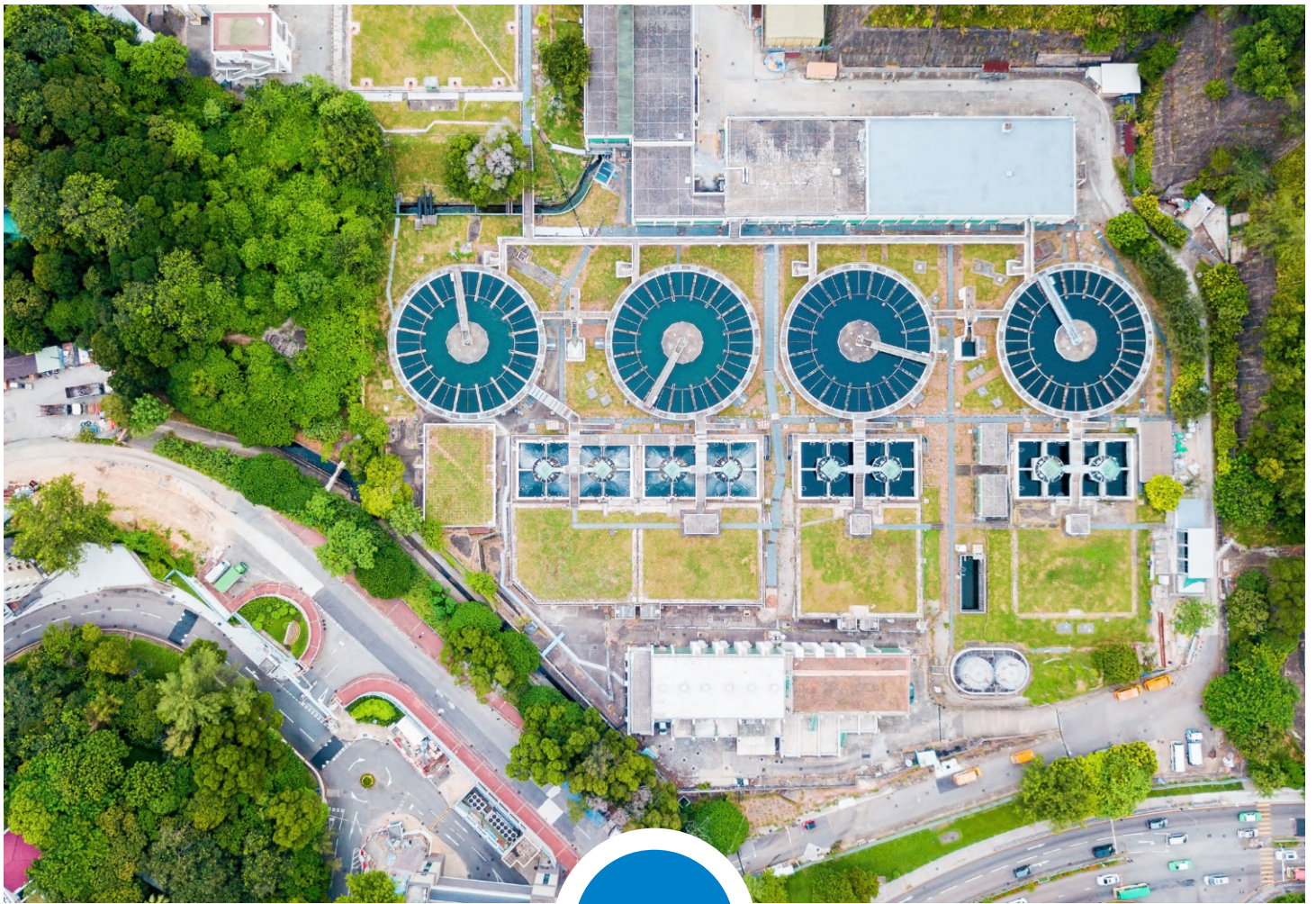
## Technical Data\*

<b>Power consumption</b>	< 82 W
<b>Response time</b>	Continuous
<b>Flow rate</b>	40 L/h
<b>Dimensions</b>	950 x 950 mm
<b>Process connection</b>	¼" BSPF process connection
<b>Protection class</b>	Non-hazardous area
<b>Operating temperature range</b>	5 - 40 °C
<b>Sample temperature</b>	5 - 40 °C
<b>Sample pressure</b>	0.1 - 0.3 bar
<b>Measuring range</b>	0 - 10 mg/L
<b>Measurement method</b>	Dual, colorimetric and amperometric
<b>pH range</b>	4 - 9
<b>Inputs</b>	Up to 6 sensors
<b>Outputs</b>	4 of 4-20 mA; 4 of NC relays; Modbus TCP. Profibus DP, extra relay and 4-20 mA input and outputs are available as additional options.

*\*Subject to change without notice.*



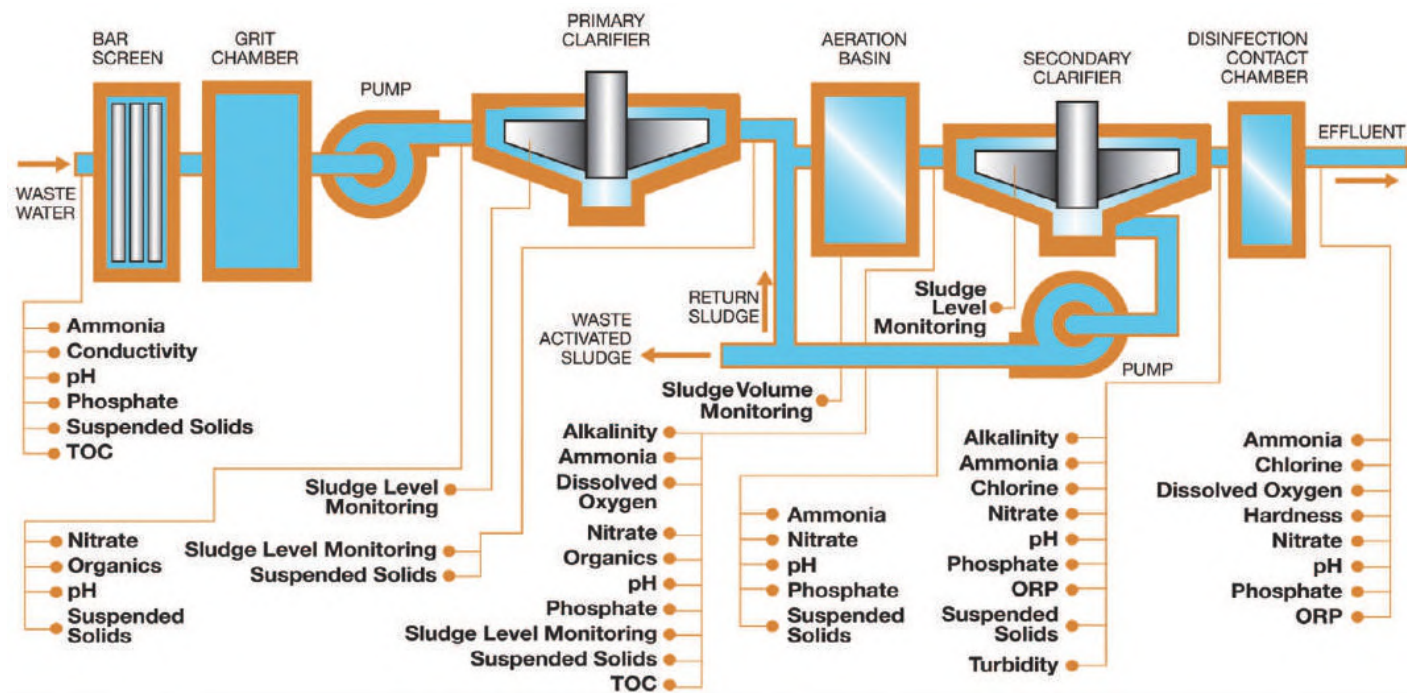




# Flow Diagrams

- Wastewater Treatment
- Drinking Water Treatment
- Industrial Water Treatment

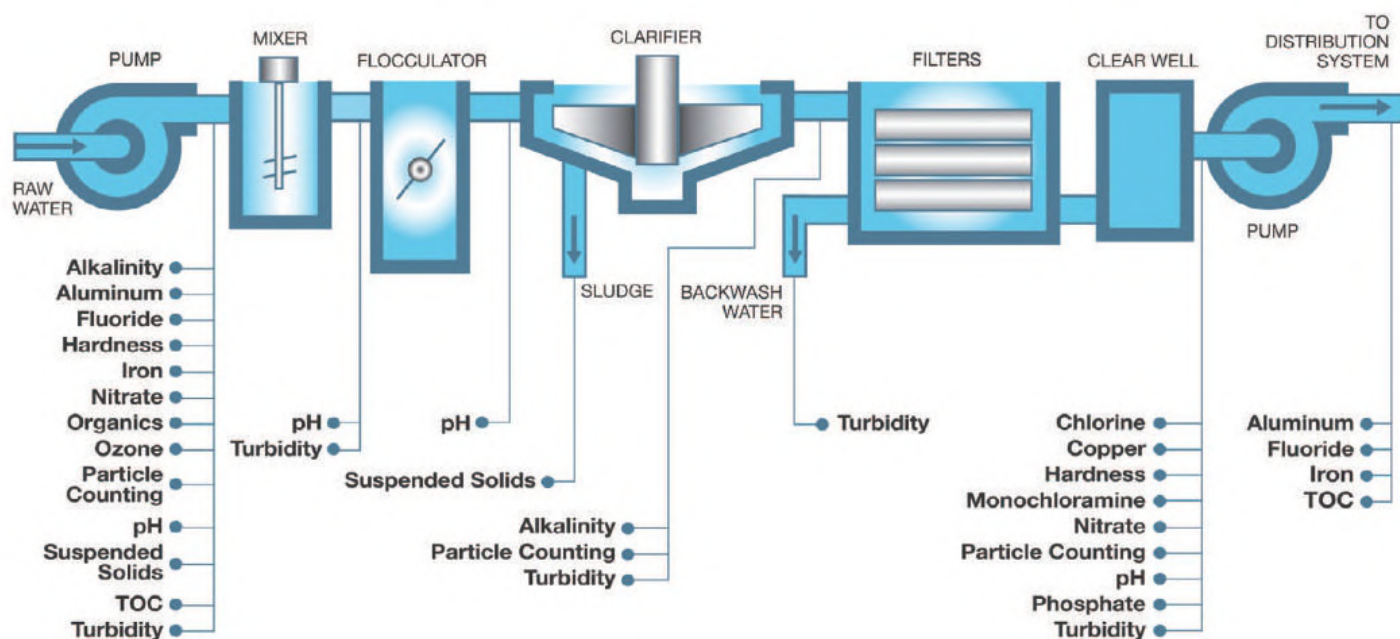
# Wastewater Treatment Flow Diagram



Parameters	Collection System	Influent	Primary Sedimentation Tank	Aeration Tank	Secondary Sedimentation Tank	Tertiary Treatment	Disinfection	Nutrients Removal	Digestion Tank	Sludge	Effluent	Online Analyzers & Instruments	Laboratory and Portable Instruments	Test Kits
Alkalinity		•	•	•	•			•		•	•		•	•
Ammonia		•	•	•	•	•	•	•			•	•	•	•
BOD		•		•							•		•	
Chlorine							•				•	•	•	•
COD		•									•		•	
Conductivity		•	•	•	•			•			•	•	•	
Dissolved Oxygen	•			•	•	•		•	•	•	•	•	•	
Total Coliform				•	•		•			•	•		•	•
Fecal Coliform				•	•		•			•	•		•	•
Flow Rate	•	•	•	•	•	•	•	•	•	•	•	•		
Hardness		•	•	•	•			•		•	•		•	•
Metal	•			•				•			•		•	•
Nitrate				•	•	•		•			•	•	•	•
Nitrite													•	
Nitrogen				•	•	•		•			•		•	
Organics		•		•	•	•					•	•		
ORP	•		•	•		•	•	•	•	•	•	•	•	
Ozone						•	•					•	•	•
pH	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Phosphates								•				•	•	
Total Phosphorous											•		•	•
Suspended Solids	•	•	•	•	•	•		•	•	•	•	•	•	
Turbidity		•		•	•	•					•	•	•	



# Drinking Water Treatment Flow Diagram

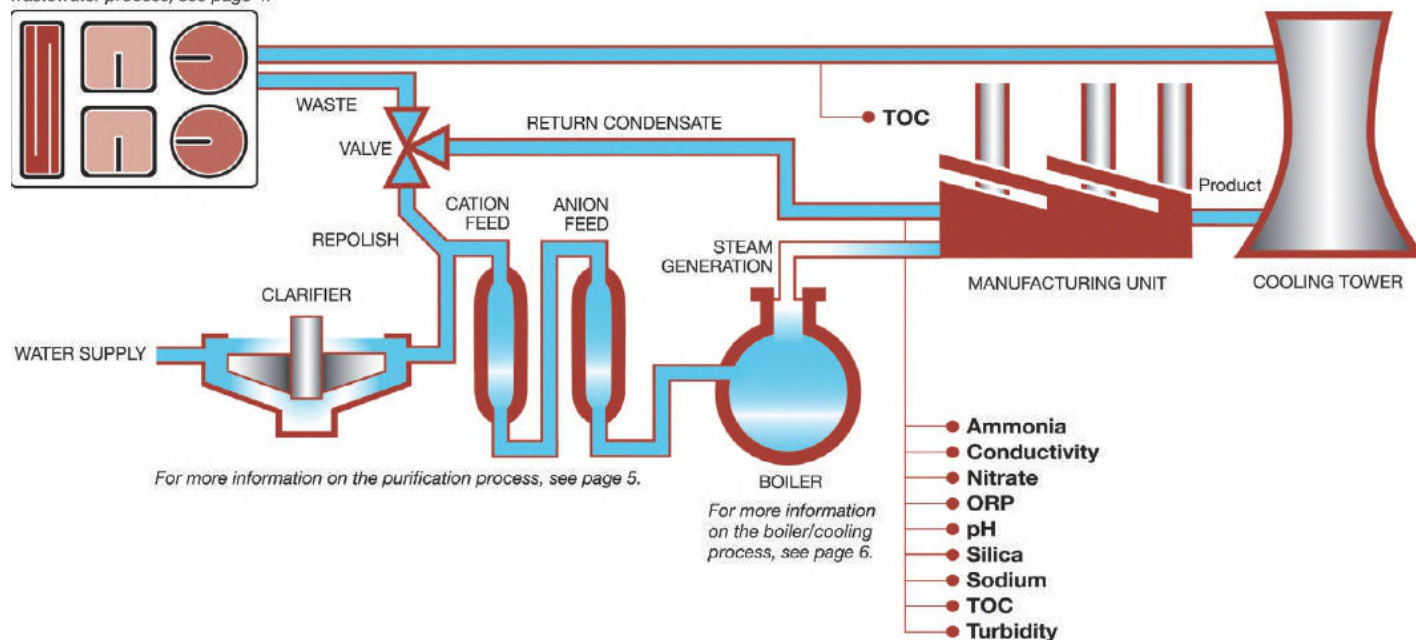


Parameter	Raw Water / Inlet	Particle Removal	Filter Inlet	Filter / Membrane Outlet	Clear Well	Outlet	Distribution	Online Sensors and Instruments	Laboratory and Portable Instruments	Test Kit
Alkalinity (P&T)	•		•			•	•	•	•	•
Aluminum	•		•	•		•	•		•	•
Ammonia	•					•	•	•	•	•
Chlorine	•			•	•	•	•	•	•	•
Conductivity	•					•	•	•	•	
Copper	•					•	•		•	•
Dissolved Oxygen	•		•				•	•	•	•
Fluoride	•						•	•	•	•
Hardness (T&Ca)	•					•	•	•	•	•
Iron	•				•	•	•		•	•
Manganese	•				•	•	•		•	•
MonoChloride	•				•	•	•	•	•	•
Nitrate	•			•	•	•		•	•	•
Organics (UV254)	•							•	•	•
ORP	•							•	•	•
Ozone	•	•	•	•				•	•	
Particle counter	•		•		•	•		•	•	
pH	•	•	•		•	•	•	•	•	•
Phosphate	•					•	•	•	•	•
Sludge	•							•		
Sulfate	•								•	•
Suspendid solids	•							•	•	
TOC	•					•	•	•		
Turbidity	•	•	•	•	•	•	•	•	•	



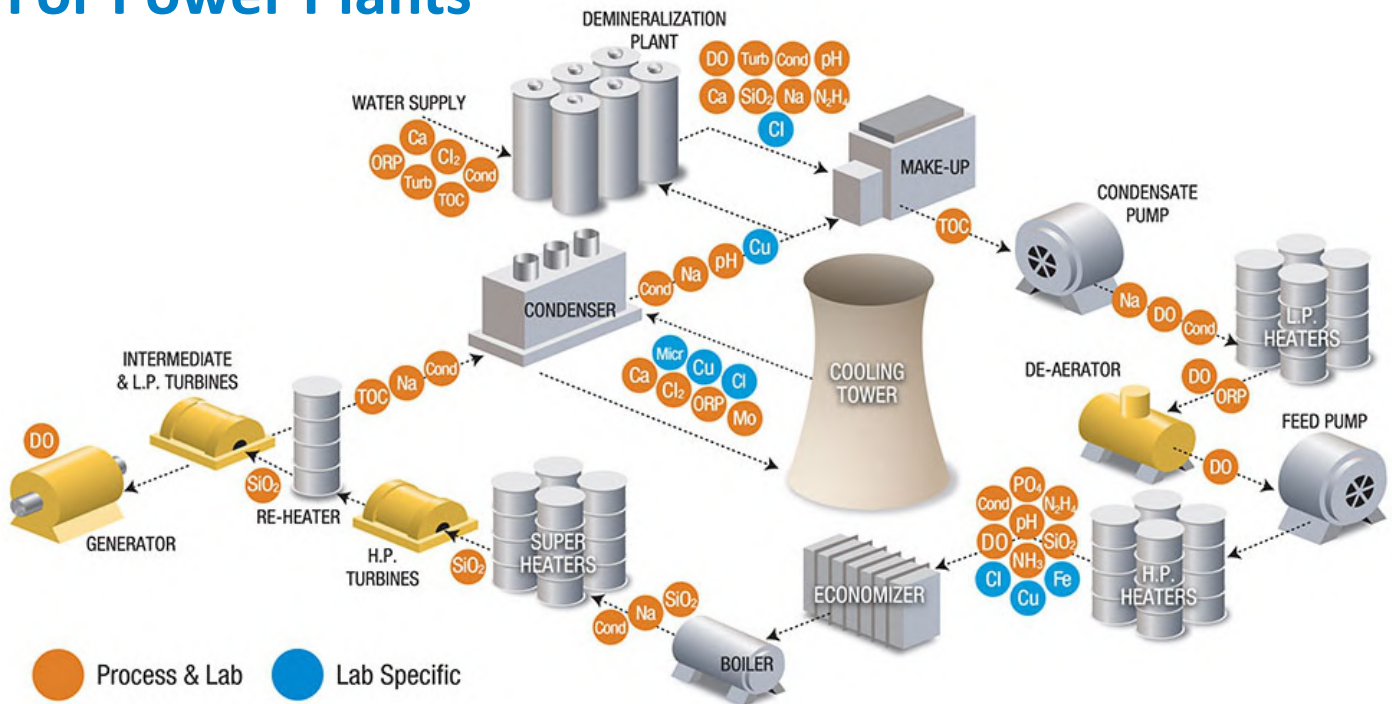
# Industrial Water Flow Diagram

For more information on the wastewater process, see page 4.

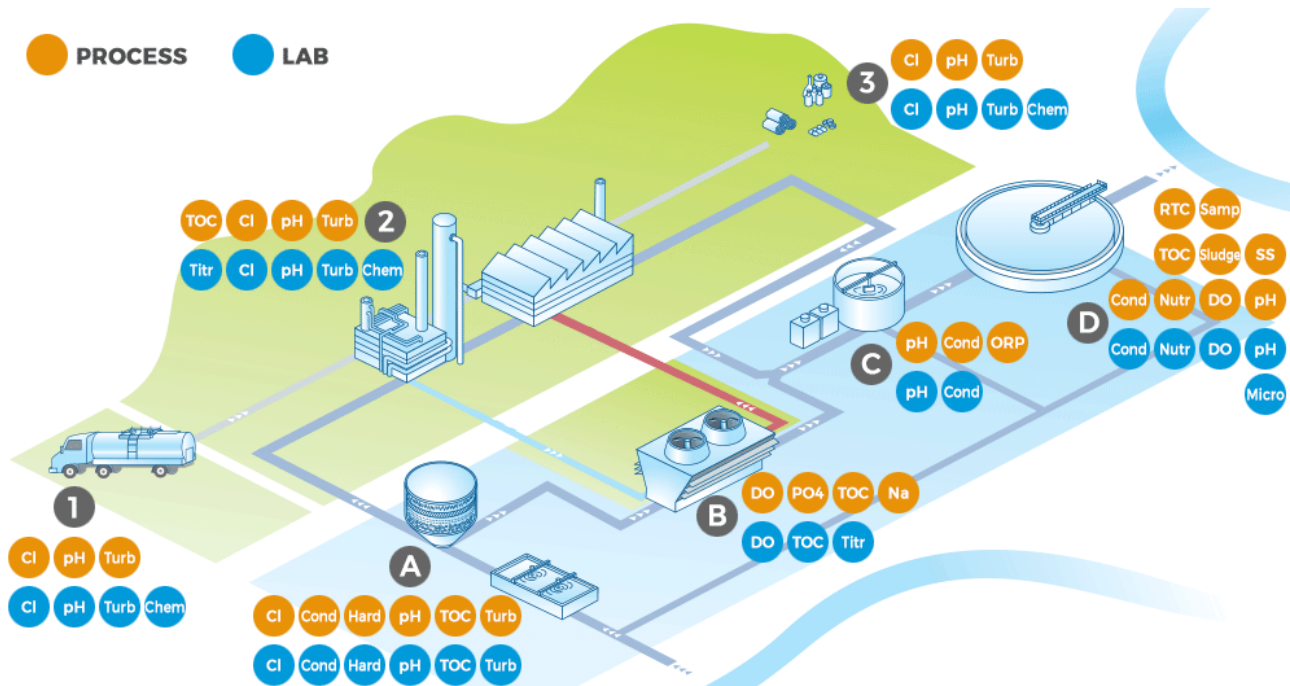


Parameter	Online sensors and analyzers	Laboratory and portable analyzers	Test kits and test stripes	Reagent
Alkalinity	•	•	•	•
Ammonia	•	•	•	•
BOD		•		•
COD		•	•	•
Chloride		•	•	•
Chlorine	•	•	•	•
Chlorine dioxide	•	•	•	•
Conductivity	•	•	•	•
Copper	•	•	•	•
Dissolved oxygen	•	•	•	•
Flow rate & Auto sampler	•			
Hardness	•	•	•	•
Iron		•	•	•
Aluminum		•	•	•
Germ culture		•	•	•
Molybdate		•	•	•
Monochloramine	•	•		•
Nitrate	•	•	•	•
Nitrite		•		•
Nitrogen		•	•	•
Organics (UV254)	•	•	•	
Ozone	•	•	•	•
pH/ORP	•	•	•	•
Deoxidant	•	•	•	•
Phosphorous	•	•	•	•
Silica	•	•	•	•
Sodium	•	•		•
Sulfate		•	•	•
TOC	•	•		•
Turbidity & Suspended solids	•	•	•	•

# Key Measurement Parameters For Power Plants



# Key Measurement Parameters For Food Plants

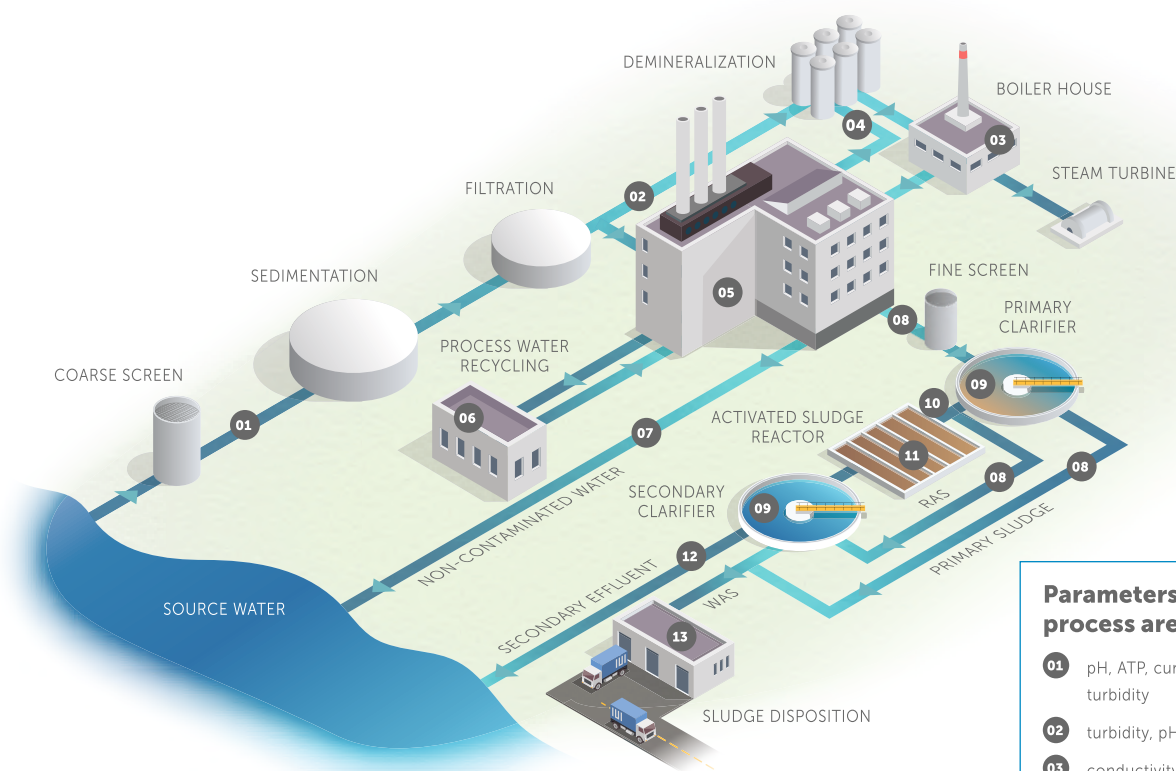


- 1 Delivery of Stocks
- 2 Production
- 3 Dispatch

- A Water Conditioning and Treatment
- B Steam/Power Generation and Cooling

- C Neutralization
- D Biological Wastewater Treatment

# Hach Solutions by Parameter



## Water Supply Conditioning

- ⚙️ ▲ ATP
- ⚙️ ▲ Color
- ⚙️ ▲ Chlorine, free and total
- ⚙️ ▲ Chlorine Dioxide
- ⚙️ ▲ Conductivity / Total Dissolved Solids (TDS)
- ⚙️ ▲ Dissolved Oxygen
- ⚙️ ▲ Hardness / Alkalinity
- ⚙️ ▲ Iron
- ⚙️ ▲ Manganese
- ⚙️ ▲ pH
- ⚙️ ▲ Silica
- ⚙️ ▲ Streaming Current
- ⚙️ ▲ Total Nitrogen (TN)
- ⚙️ ▲ Total Organic Carbon (TOC)
- ⚙️ ▲ Total Phosphorus (TP)
- ⚙️ ▲ Turbidity and Suspended Solids (TSS)

## Steam & Power

- ⚙️ ▲ Conductivity
- ⚙️ ▲ Dissolved Oxygen
- ⚙️ ▲ Hydrazine / Oxygen Scavenger

- ⚙️ ▲ Laser Turbidity / Iron Transport
- ⚙️ ▲ pH
- ⚙️ ▲ Phosphate
- ⚙️ ▲ Silica
- ⚙️ ▲ Sodium
- ⚙️ ▲ Total Nitrogen (TN)
- ⚙️ ▲ Total Organic Carbon (TOC)
- ⚙️ ▲ Total Phosphorus (TP)

## Paper Machine Wet End Operations Monitoring

- ⚙️ ▲ ATP
- ⚙️ ▲ Chlorine, free and total
- ⚙️ ▲ Conductivity / Total Dissolved Solids (TDS)
- ⚙️ ▲ Dissolved Oxygen
- ⚙️ ▲ Hardness
- ⚙️ ▲ ORP
- ⚙️ ▲ Laser Turbidity / Iron Transport
- ⚙️ ▲ pH
- ⚙️ ▲ Sulfate
- ⚙️ ▲ Total Nitrogen (TN)
- ⚙️ ▲ Total Organic Carbon (TOC)
- ⚙️ ▲ Total Phosphorus (TP)

- ⚙️ ▲ Turbidity and Suspended Solids (TSS)

## Wastewater Treatment

- ⚙️ ▲ Absorbance UV
- ⚙️ ▲ Ammonia
- ⚙️ ▲ ATP
- ⚙️ ▲ Biochemical Oxygen Demand (BOD)
- ⚙️ ▲ Conductivity / Total Dissolved Solids (TDS)
- ⚙️ ▲ Dissolved Oxygen
- ⚙️ ▲ Flow
- ⚙️ ▲ Nitrate
- ⚙️ ▲ Nitrite
- ⚙️ ▲ Oil in Water
- ⚙️ ▲ ORP
- ⚙️ ▲ pH
- ⚙️ ▲ Phosphate
- ⚙️ ▲ Sludge Level
- ⚙️ ▲ Total Nitrogen (TN)
- ⚙️ ▲ Total Organic Carbon (TOC)
- ⚙️ ▲ Total Phosphorus (TP)
- ⚙️ ▲ Turbidity and Suspended Solids (TSS)

## Parameters by process area

- 01 pH, ATP, current streaming, turbidity
- 02 turbidity, pH, Cl<sub>2</sub>
- 03 conductivity, sodium, silica, DO, phosphate, hydrazine
- 04 conductivity, silica
- 05 pH, solids, ATP
- 06 pH, solids, RTC-DAF
- 07 oil in water, conductivity
- 08 solids
- 09 sludge level
- 10 UV254, TN, TOC, TP, solids, COD, BOD
- 11 DO, solids, ORP, ATP
- 12 phosphate, ammonia, nitrate, nitrite, total inorganic nitrogen, solids, pH, RTC-DOS, TN, TOC, TP, COD, BOD
- 13 solids, pH, RTC-SD





# Convenient Online Shopping

Register today to take advantage of personalised shopping features



Shop your favourite items in a few minutes



Convert quotes into orders in just a few clicks



View your order and quote requests at any time



Pay with credit card or upload your Purchase Order



Track your deliveries



## SERVICE

*Be confident with Hach Service*

Hach strives to manufacture reliable, durable, and easy to operate instruments. To add to the quality of instruments we also have a Service team that is highly skilled and trained to keep these instruments to a high standard of operation. Only Hach Service Technicians are factory certified to perform the maintenance and repairs of the equipment.

The Hach Service Representative is a highly trained professional that has a thorough, in-depth knowledge of the workings of each manufactured instrument. Our factory-trained service personnel are the only people authorized to perform any repair, start-up service or maintenance on these instruments.

- Reduce equipment downtime
- Ensure accuracy with regular maintenance
- Repair instruments faster with priority response



Commissioning



Calibration/Certification



Repair Service



Maintenance Service



Technical Support



Online Shop



*Be Right™*

## Hach Australia

26 Brindley Street, Dandenong South, VIC 3175

1300 887 735

[sales@hachpacific.com](mailto:sales@hachpacific.com)

[au.hach.com](http://au.hach.com)



SCAN ME