

**Complete Water Analysis Solutions for** 

# **Power and Steam Generation**



# The Water Analysis Experts for Power and Steam Generation

With more than 90 years as the leading expert in water quality analysis, Hach® provides the knowledgeable and responsive support team you trust to address your unique needs for water and steam applications throughout your entire process.

Hach provides solutions for laboratory, online and portable products whether your application is routine or challenging. We also provide service and training solutions that support you and our products.

Hach has the most comprehensive coverage for all types of water quality from source water to ultrapure. Our breadth of product solutions support all power plants whether fossil or nuclear, as well as cogeneration and steam production, and waste-to-energy.

Influent water treatment

**Demineralization** 

Make-up water

Steam cycle

**Cooling Water** 

Return Condensate

Wastewater

Laboratory

# Featured water analysis solutions

#### **Phosphate**

#### 5500sc Phosphate Analyser

Only two liters of reagents are required for the analyser to perform unattended for up to 90 days. The industry's only pressurised reagent delivery system eliminates frequent pump maintenance. Predictive diagnostic tools, including Hach's proprietary Prognosys technology, warning LEDs, and high-visibility notification screens let you avoid unplanned downtime.





#### Phosphax sc LR Low Range Phosphate Analyser

Hach's digital on-site analyser Phosphax sc with weatherproof housing is ideal for the high-precision determination of Ortho-Phosphate concentration directly at the tank. The instrument offers a wide measurement range for a variety of wastewater applications with detection limits as low as 0.015 mg/L PO4-P and low response time including sample preparation.





#### Phosphax sc Phosphate Analyser

Ideal for the high-precision determination of Ortho-Phosphate concentration directly at the tank. The instrument offers a wide measurement range for a variety of water applications with detection limits as low as 0.05 mg/L and response time of less than five minutes including sample preparation





#### **Silica**

#### 5500sc Silica Analyser

Only two liters of reagents are required for the analyser to perform unattended for up to 90 days. The industry's only pressurised reagent delivery system eliminates frequent pump maintenance. Predictive diagnostic tools, including Hach's proprietary Prognosys technology, warning LEDs, and high-visibility notification screens let you avoid unplanned downtime.







#### **Ammonium Analysers**

#### Amtax sc Ammonium Analyser

With gas sensitive electrode, this instrument is designed for the high-precision determination of ammonium concentration directly in the tank. The analyser offers a high degree of accuracy due to sensitive GSE instrumentation and needs only minimal supervision thanks to automatic cleaning and calibration & self-diagnosis.





#### 5500sc Ammonia Monochloramine Analyzer

Continuous monitoring gives you the information needed to control your chloramination process. It further provides all the information needed to eliminate nitrification events, taste and odour issues for confidence in your chloramination process.







#### **Dissolved Gases**

#### Orbisphere K1100 Optical O<sub>2</sub> Sensor

Achieve high accuracy in low ppb range with no membranes.

- Maintenance one time per year
- K1200 available for irradiated water applications, providing real-time data while reducing overall dose
- No interference by magnetite, hydrogen or flow



Provides the complete solution in dissolved gas monitoring.

- Accurate, repeatable, trace-level measurements
- Data management
- Complements Orbisphere sensors



20.200

#### **Orbisphere Hydrogen TC Sensor**

Monitor hydrogen in the power production process.

- Patented thermal conductivity (TC) sensor
- Continuous measurements
- · Gaseous or liquid samples



#### Orbisphere 3100 Portable Optical O<sub>2</sub> Analyzer

Mitigate risk with the most rugged portable  $O_2$  analyzer in the power industry.

- Accurate results in seconds; ready to measure right out of the box
- · Calibration one time per year
- Internal data storage and export via USB interface



#### Orbisphere GA2400 O<sub>2</sub> EC Sensor

Achieve highly accurate results for very low oxygen levels.

- Electrical conductivity (EC) sensor
- Unrivaled highly accurate reading at ±1% at very low DO levels down to 0.1 ppb
- Easy and fast maintenance
- Robust for harsh environments

#### Conductivity / pH / ORP

#### 9523 sc Specific and Cationic Conductivity, and pH analyzer

Calculate accurate pH measurements without interference from contaminants.

 More contaminant-resistant than traditional pH probes

# 9525 sc Degassed Cation Conductivity Panel System

Measure conductivity following the removal of  ${\rm CO_2}$  gas from the sample stream.

An integrated system, now available with a regenerative cooling option that measures:

- Specific conductivity (SC)
- Cation conductivity (CC)
- Degassed cation conductivity (DCC)
- Calculated pH

#### **Contacting Conductivity Sensors**

A broad range of product options is available to meet your unique needs.

- Robust construction
- 316 stainless steel
- Integrated temperature sensor

#### **SC4500 Controller**

Deploy the most versatile controller on the market.

- Graphical user interface helps indicate when errors or warnings occur
- Supports the use of pH/ORP and conductivity ultra pure modules









# 8362 pH or ORP Sensor for High Purity Water

High-purity applications require accurate temperature sensitivity and a constant flow of electrolyte to the sample stream.

- Self-pressurizing electrode
- Unique construction made of stainless steel
- The entire system is grounded and shields the measureing electrode from EMI and RFI interference

#### **Total Organic Carbon (TOC)**

#### **QP1680 Benchtop TOC Analyser**

- Available as a combined TOC and TNb analyser or for the individual parameters
- Direct sample injection minimises the risk of sample carry-over.
- Large diameter sample aspiration tubing handles particles up to 800  $\mu\text{m},$  expanding possible applications and reducing clogging.
- Integrated stirrer homogenizes particlecontaining samples before injection.
- Requires less space in the laboratory with simple operations, data analysis and system diagnosis



- Identify a wide range of contamination with a powerful, patented oxidation technology
- Certified uptime of 99.7%, maintenance only 2x per year
- TIC, TOC and VOC analytics in a single analyzer

# Da Rector

#### FP360 sc Oil in Water Sensor

- Continuous online monitoring
- · Low maintenance
- Easy to clean







#### **Process Sensors**

#### **UVAS plus sc Sensor**

The UVAS plus sc probe covers a broad spectrum of applications, including: protection of treatment plants from industrial dischargers, monitoring shock loads from internal plant processes, control of activated sludge processes, control methanol feed in BNR based on organic loading, final effluent monitoring and monitoring efficiency of UV disinfection processes.



# **Turbidity & Corrosion Monitoring**

## TU5 Series Lab and Online Turbidimeters

A patented optical design delivers the best low-level precision and sensitivity.

- 98% less surface area to clean
- Online and lab results that match





#### **DRB200 Reactor Heating Block**

Combine DRB200 and lab tests with DR3900 and TU5400 online turbidimeter to get a clear view on:

- Iron transport
- Total and dissolved iron
- · Ultra low range iron



#### Solitax sc Sensors

- 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



#### **TSS sc Sensor**

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



#### **Ultraturb seawater sc Turbidimeter**

The Hach Ultraturb sensor is Hach's most versatile turbidimeter. With its wide measurement range (0-1,000 NTU) and optional automatic cleaning system, the Ultraturb is well suited for everything from filter effluent and distribution systems to raw water monitoring.



#### **Disinfection**

#### Ultra Low Range CL17sc Colorimetric Chlorine Analyzer

Take control of challenging water treatment processes with an analyzer that maintains accuracy across a wide range of sample conditions.

- Wide range of controller mounting options available.
- Reliable, direct total chlorine results
- 8 ppb detection limit
- Cumulative Chlorine Counter<sup>TM</sup>





#### **DR1300 FL Portable Fluorometer**

- Provides precise and accurate results
- Tests are easy-toperform, with ULR analysis in minutes
- Reduce biofouling potential
- Save on dechlorination costs
- · Handles traditional interferences with ease
- Bluetooth capability allows easy data transfer
- Decrease in toxic reagents and chemical waste

#### **CL10sc Amperometric Chlorine Analyzer**

A pioneering solution for reagentless amperometric chlorine measurement, marking a significant advancement in water treatment monitoring technology. Offering continuous readings in real-time, this sensor empowers operators with immediate insights into changes in treatment



conditions, enabling proactive control measures to maintain optimal water quality.



### **Photometry**

# DR3900 VIS and DR6000 UV-VIS Photometers

Trace your sample from collection to preparation, sample analysis, to documentation.

- RFID technology
- Pre-programmed with power industryspecific methods
- Measures chlorine, silica, phosphate, oxygen scavengers, TOC, iron and copper







#### **Microbial Load**

#### **EZ7300 ATP Analyzer**

Monitor total bacterial and pathogen load in water.

- Complete ATP recovery, differentiating living biomass from non-living
- Complies with ASTM D4012-81
- Low maintenance



#### **Hardness & Alkalinity**

## EZ4000 Single-Parameter Titrator

Smart automatic features for validation, priming, and cleaning providing excellent analytical performance and maximized uptime.

- Rugged mainframe with compact footprint
- Analysis of up to eight sample streams



# EZ5000 Multi-Parameter Titrator

Measure up to four parameters in one analyzer: total hardness, calcium hardness. total alkalinity, and free alkalinity. Application areas include:

- · Raw water intake
- · Make up water
- Cooling water conditioning and event monitoring



#### **Meters & Probes**

#### SL1000 Portable Parallel Analyzer

Get highly accurate chloramination results, with less opportunity for errors, in a fraction of the time.

- Up to six parameters in parallel
- Automation, internal temperature control, and selfcontained chemicals to avoid manual steps



# SL250 Single-Port Portable Parallel Analyzer (PPA)

- Accuracy and repeatability at your fingertips
- Perform your tests faster
- · No need to handle chemicals

#### **Chemkeys**

Chemkeys are designed for use with the SL250 and SL1000-PPA Portable Parallel Analysers. Use for dramatically streamlined water quality testing.





#### Scan the QR Codes below to view our Chemkeys







**New Zealand** 

#### **AT1000 Automatic Titrator**

Now anyone in the laboratory can perform Potentiometric Titrations that deliver fast, accurate and reliable results.



- Pre-set application packs
- Ready-to-use straight from the box

## HQ Meters & Intellical Probes

We offer a range of probes for routine and challenging power applications.

· Intuitive user interface



#### **Chemistries & Reagents**

#### Film Forming Amine Kit

Hach's Film Forming Amines kit allows you to test ODA, OLA and OLDA based film forming amines products using Hach's DR3900 and DR6000 spectrophotometers.











# Your Hach instruments serviced by the people who know them best

Having a service plan on your Hach® instruments is akin to adding another team member. That's because we're here to help you maintain operational stability, reduce compliance risk, maximise instrument uptime, control unexpected costs, and ensure data integrity. With regular maintenance visits and validating documentation, you're safeguarding your instrument's accuracy and meeting compliance requirements.

# With our skilled service techs, we'll help you keep your instruments protected and at peak performance.

Plus, our expertise runs deep. Technical support is a quick call away.

#### More questions? Reach out.

#### **CONTACT DETAILS:**

Hach Service Australia 1300 887-735 ext 5

#### service@hachpacific.com

Hach Service New Zealand 0800 50 55 66 ext 4

nzservice@hachpacific.com

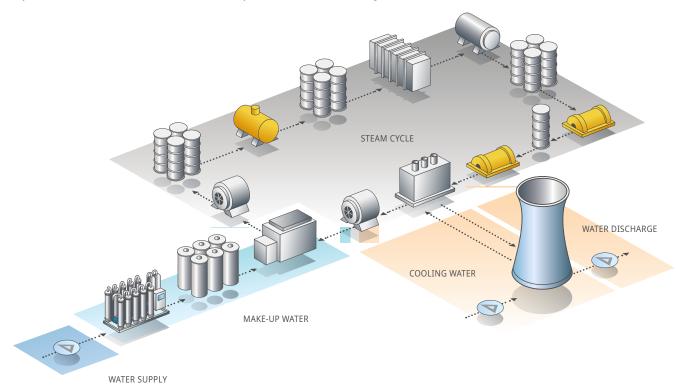
#### The coverage you need from the experts you trust

From helping you start up your equipment to repairs and replacements using genuine Hach parts, we know that less downtime leads to confidence in your results.

		MOST POPULAR	
	Essential Protection	Premium Protection	Customised Protection
Benefits	Extend instrument lifetime     Confidence in your results	Maximum uptime     No unexpected costs     Fully covered repairs	Maximum uptime     User maintenance     Flexible financing options     Tailored service options
Included in Plan	Instrument calibration Preventive maintenance Automatic alerts Software updates Smart monitoring Proactive support Wear parts included	Instrument calibration     Preventive maintenance     Automatic alerts     Software updates     Smart monitoring     Proactive support     Wear parts included     Start up	Instrument calibration Preventive maintenance Automatic alerts Software updates Smart monitoring Proactive support Wear parts included Start up
Repairs	Billable repairs available	Instrument repairs included     Spare part replacement     Priority repair scheduling	Instrument repairs included     Spare part replacement     Priority repair scheduling
Customization			Embedded service experts     Financing options     Tenders     Multi-site service support

# **Hach Solutions by Parameter**

All parameters are available as both process & laboratory solutions.



#### **Water Treatment**

Chloride

Chlorine

Chlorine Dioxide

Conductivity/Total Dissolved Solids (TDS)

Dissolved Oxygen

Hardness/Alkalinity

Hydrazine/Oxygen Scavenger Oxidation-Reduction Potential

Ozone

Microbial Load (ATP)

pH Silica Sodium

Total Organic Carbon (TOC)
Turbidity and Suspended Solids

#### **Steam Cycle**

Ammonia

Chloride

Conductivity/Total Dissolved Solids (TDS)

Copper

Dissolved Oxygen

Hydrazine/Oxygen Scavenger

Hydrogen

Iron

Oxidation-Reduction Potential

рΗ

Phosphate Silica

Sodium

Total Organic Carbon (TOC)

#### **Cooling Water**

Chloride

Chlorine/Oxidants

Chlorine Dioxide

Conductivity/Total Dissolved Solids (TDS)

Coppe

Hardness/Alkalinity

Microbial Load (ATP)

Microbiology

Molybdate and Other Corrosion Inhibitors

Oxidation-Reduction Potential

Ozone

На

Sodium

Total Organic Carbon (TOC)

#### To view the complete portfolio of the power industry, please visit:



Australia Power Industry



New Zealand Power Industry





# 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**.







**New Zealand** 

#### Interested?

Australia
1300 887 735
sales@hachpacific.com
www.au.hach.com

New Zealand 0800 50 55 66 sales@hachpacific.com www.nz.hach.com

