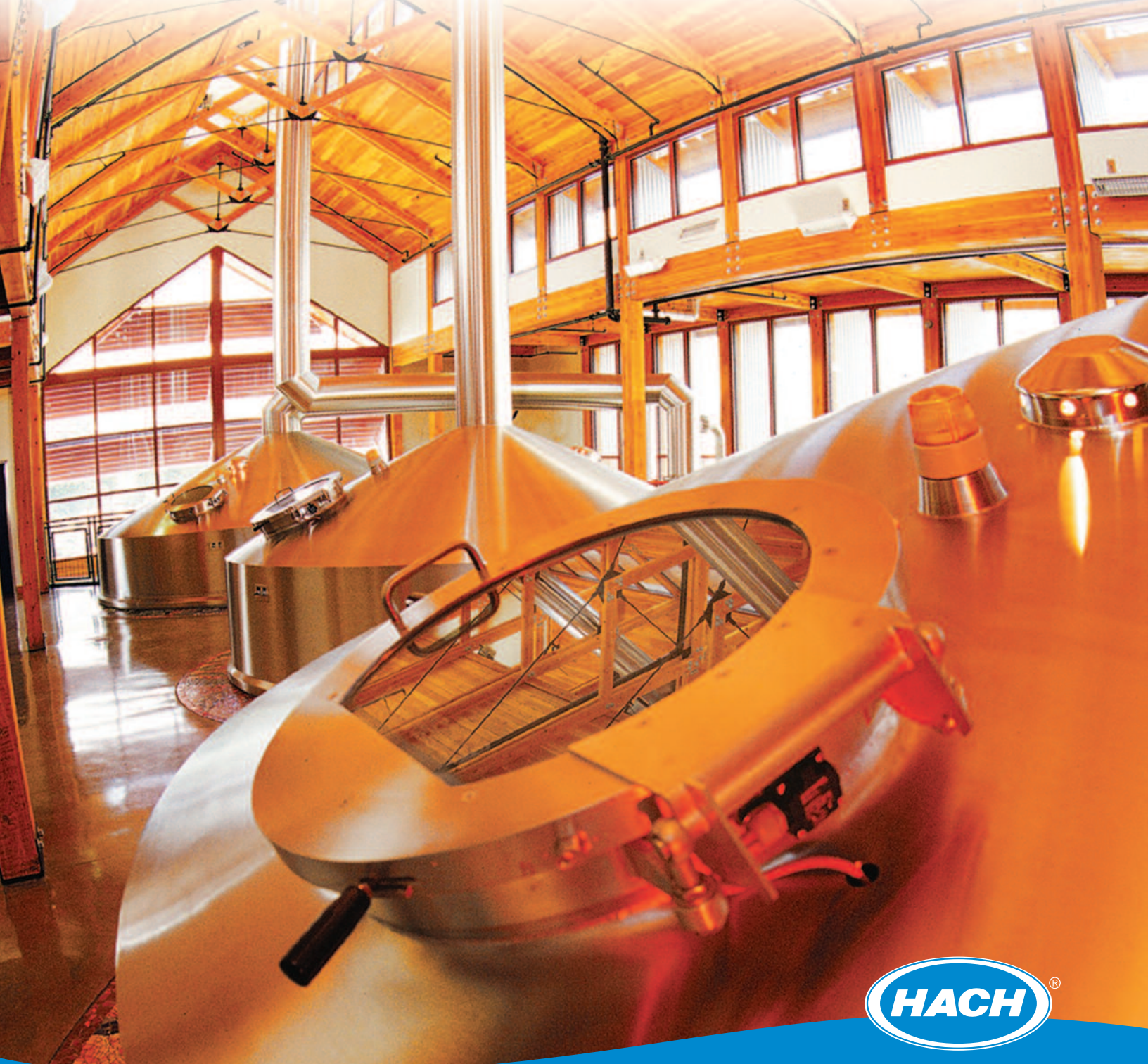Complete Analysis for the

BEVERAGE INDUSTRY

HACH®

Be Right™

YOUR PARTNER FOR QUALITY ANALYSIS IN THE BEVERAGE INDUSTRY

At Hach, we understand your needs when it comes to ensuring the highest levels of product quality, consistency and safety. Since 1947, Hach Company has designed, manufactured, and distributed world-class instrumentation, test kits, and reagents for testing water and product quality in a variety of beverage industry applications, including influent, inline and at line product analysis, Clean-In-Place (CIP), and effluent water treatment.
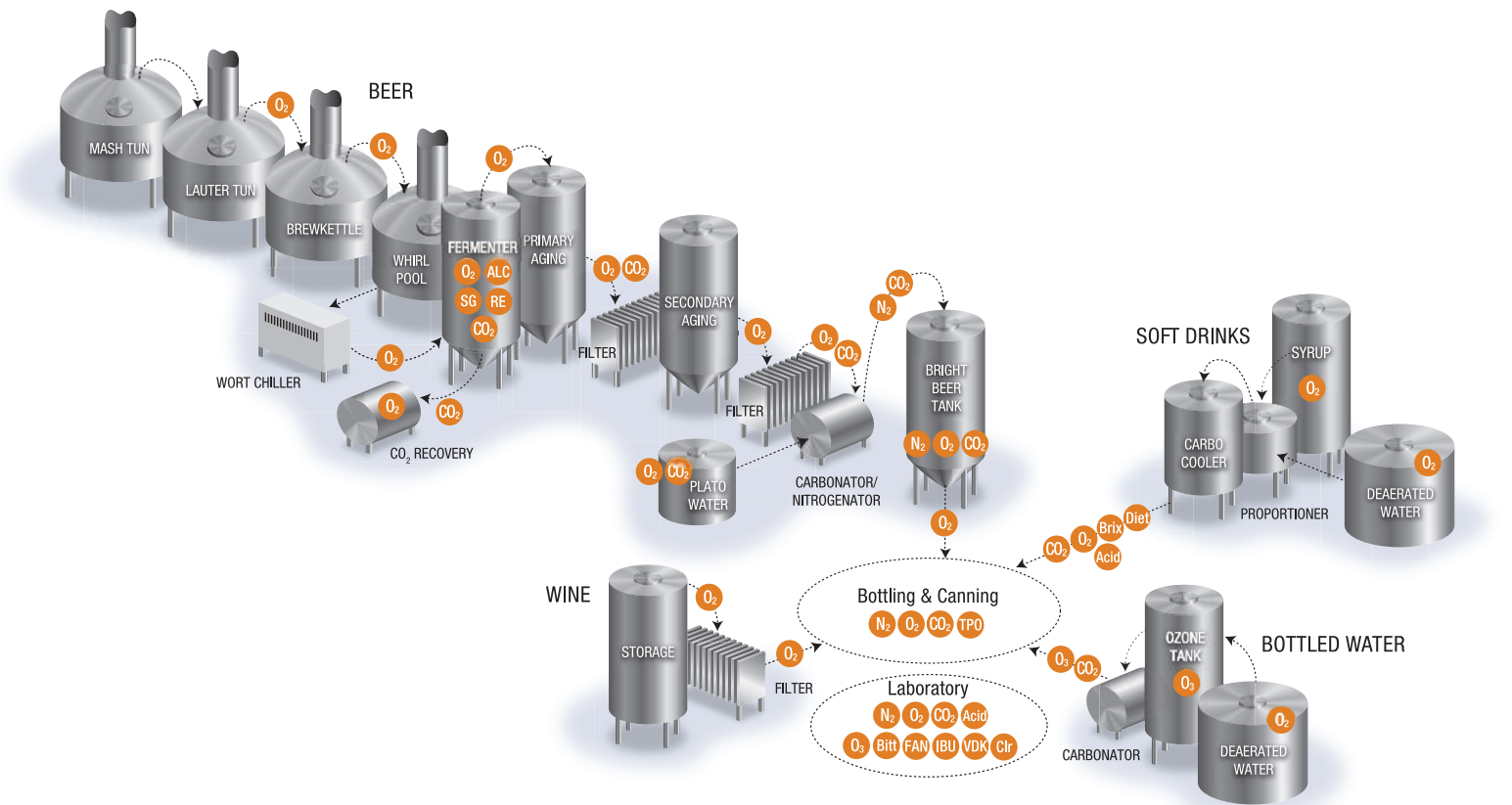
We invite you to take a look at our comprehensive line of product solutions and services. They're the most accurate and dependable products you can buy.

Hach offers:

- A global organization with more than 40 years of experience developing products for the beverage industry.
- A complete portfolio of solutions for all applications including influent water, in-line and at line product quality, and wastewater.
- Knowledgeable and responsive support teams focused on fast, local service with the global application knowledge to solve even the most difficult problems.

HACH®

KEY MEASUREMENT PARAMETERS

Acid Acid	**Diet** Diet	**RE** Real Extract
ALC Alcohol	**FAN** Free Amino Nitrogen	**SG** Specific Gravity
Bitt Bitterness	**IBU** Intl. Bitterness Units	**TPO** Total Package Oxygen
Brix Brix	**N_2** Nitrogen	**VDK** Vicinal Diketones
CO_2 Carbon Dioxide	**O_2** Oxygen	
Clr Color	**O_3** Ozone	

Hach lab instruments are designed to help you confidently meet compliance objectives in influent, CIP, and wastewater treatment, as well as in your quality control lab.

PHOTOMETRIC & COLORIMETRIC

DR 900 Colorimeter

- Fastest and simplest testing for the most demanding field environments
- Your important testing methods are available at your fingertips
- Field ready in every way possible
- Intuitive user interface
- Simple data communication

DR 6000 Spectrophotometer

The DR 6000 is the industry's most advanced lab spectrophotometer. It offers high speed wavelength scanning across the UV and Visible Spectrum, and comes with pre-programmed ASBC and MEBAK methods which include the most common testing methods used today.

- Accessories for High Volume and High Accuracy Testing Needs
- Advanced Quality Assurance
- Guided Procedures and Elimination of False Readings
- Automatically Avoids Errors

TNTplus® Bar-Coded Chemistries

TNTplus vials work with the DR 6000 Spectrophotometer.

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

Brewery Methods

The Brewery Analysis Package software upgrade contains 12 specific brewery assays that conveniently upload via USB to a DR 6000. Includes procedures for:

Anthocyanogens, Iron, Steam Volatile Phenols, Beer Color, Iso-Alpha-Acids, Total Polyphenols, Bitterness Units, Photometric Iodine, Thiobarbituric Acid Number (TAN), Free Amino Nitrogen, Reductones, and Vicinal Diketones.

HACH®

Hach Test Kits

From beakers to colorimeters, everything you need is supplied in Hach Single- and Multi-parameter Test Kits.

- Pre-measured reagents
- Accurate color matching
- Step-by-step instructions
- Upright reagent storage
- Rugged, chemical-resistant cases

2100AN Laboratory Turbidimeter and 2100Q Portable Turbidimeter

The primary standards for versatility, accuracy, and value in turbidity measurement.

- Pre-programmed calibration procedure
- Smart self diagnostics
- Meets or exceeds EPA criteria

Hach Test Strips

Easy to use for fast and reliable water quality screening.

ELECTROCHEMICAL

HQd™ Meters & IntelliCAL™ Probes

Use a single handheld HQd meter and interchangeable IntelliCAL probes for quick, simple, and reliable measurements.

HQd meters and probes are designed for the accurate measurement of pH, DO, Conductivity, Nitrates, and many more parameters. Available in both hand held and lab configurations, HQd meters can be combined with any combination of probes to provide all your neccessary measurements in one instrument.

TITRAMETRIC & TOTAL OXIDANTS

Radiometer Analytical TitraLab® Workstations

Offers a variety of options for customizable titration measurements. Accuracy, reliability and ease of use are the key features of these titration systems. For example, the TitraLab 965 Potentiometric Titration Workstation can perform acid-base determinations in aqueous/non-aqueous media, redox determinations, KF titrations, and much more. The TitraLab 870 Combined Conductivity and Potentiometric Titration Workstation provides pH, conductivity and ion measurements.

TitraLab® Automatic Titrators

TitraLab Automatic Titrators provide the perfect solution for routine measurements. With extremely fast and accurate results, these products require minimal training, push-button operation, and are simple to maintain. Karl Fischer moisture, pH, hardness, alkalinity, lactic acid, and many other parameters are available.

AutoCAT™ 9000 Automatic Chlorine Dioxide and Chlorine Amperometric Titrator

Use to monitor and protect RO membranes and ion exchange resins, optimize dechlorination processes and calibrate process instruments. Measure free and total chlorine, chlorine dioxide, and sulfite.

Hach Digital Titrator

Get accurate ($\pm$1%), convenient titrations without the bulk, fragility, or waste of a conventional burette. Test for eighteen parameters including chlorine, hardness, and iron. Uses interchangeable titrant cartridges.

HACH®

HACH CHEMISTRIES & STANDARDS

Hach Chemical Reagents

A complete system that provides confidence in your test results. No one matches Hach's 60 years of experience providing accurate, practical, and easy-to-use analytical products. Chemical reagents include chlorine, ozone, CO_2, O_2, alkalinity, hardness and many more.

- Formulated to minimize interferences, test complexity and analysis time
- Designed for maximum stability and consistency
- Certified by rigorous ISO process procedures

AccuVac® Ampules

Easy-to-use AccuVac reagents are ideally suited for analysis of many parameters, including ozone. The ampules contain the precise amount of reagent needed for a single test. Simply snap the tip and the ampule draws in the correct amount of sample. Multiple ranges available.

OTHER TOOLS & SUPPLIES

Laboratory Supply

Hach offers a wide selection of labware to meet your analytical needs. Balances, bottles, glassware, hot plates, microscopes, pipets, pumps, samplers, and other apparatus are standard stock items. From Acidity to Zinc, Hach offers the labware for your test parameter.

Hach process instruments help you save money by controlling energy and chemical costs and optimizing staff efficiencies throughout the beverage facility.

CONTROLLERS

Hach Digital Controllers

Use any of the digital family sensors with the sc200 Digital Controller that accepts up to two sensors or the sc1000 Universal Controller that accepts up to eight sensors in any combination.

- Plug-and-play operation without special ordering or software configuration
- Many communication options including MODBUS® and wireless modes

Hach's Digital Sensor family includes ammonia, chlorine, chlorine dioxide, conductivity, DO, Nitrate, ORP, ozone, pH, phosphate, sludge blanket level, suspended solids, turbidity, and UV absorption.

ALKALINITY

APA 6000 Alkalinity Analyzer

Completely automated operation: self-cleaning, self-calibrating, and self-priming for low maintenance.

- Accurate alkalinity determinations to 1000 mg/L as $CaCO_3$
- Optional sample sequencing kit for using a single analyzer to monitor two separate sample flows

FREE / TOTAL CHLORINE

CL17 Free/Total Chlorine Analyzer

0.035 to 5 mg/L free or residual chlorine

Dependable, colorimetric DPD free and total chlorine analysis.

- Chlorine analysis independent of pH, temperature, and sample flow
- Unattended operation up to 30 days
- Colorimetric DPD chemistry—fast, reliable, economical

EPA COMPLIANT

HACH®

CONDUCTIVITY

3700 sc Digital Inductive (Electrodeless) On-Line Sensors
200 to 2,000,000 µS/cm

Blowdown, chemical concentration, leak detection, and dilution concentrations can be effectively monitored and controlled. There is no direct contact between the measuring element and the sample so they are contamination and corrosion resistant.

- Ideal for demineralizer regeneration
- Rugged, non-fouling design
- Sensor requires a Hach sc200™ or sc1000™ Digital Controller

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 cutting-edge 3D calibration procedure that is conducted prior to shipping, the probe will not drift and is more accurate than ever before.

ORBISPHERE M1100 Luminescent Dissolved Oxygen Sensor

Allows you to monitor oxygen in the beverage production process.

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

ORBISPHERE 3100 Portable Oxygen Analyzer

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
- User friendly instrument with color display

ORBISPHERE 6110 Total Package Analyzer

Easily and automatically provides oxygen and carbon dioxide concentrations for both the headspace and liquid in bottles or cans.

- Gas-phase analysis with minimal maintenance
- Accurate TPO & CO_2 analysis
- Ergonomic operation

HARDNESS

APA 6000™ Hardness Analyzer

0.05 to 10 mg/L for hardness as calcium carbonate

Accurate, continuous hardness measurement.

- Accurately and continuously measures up to two sample streams (requires sample sequencing kit)
- Makes your water softening system more efficient and less costly

OZONE

ORBISPHERE C1100 Ozone Sensor

The ORBISPHERE C1100 Ozone Sensor with 410 Controller is the only inline sensor for ozone monitoring.

- Installs in-line to eliminate continual product loss
- Sensor refurbishment in under 5 minutes with pre-filled recharge cartridge
- Quick and easy air calibration
- Stainless steel body extends sensor life

pH / ORP

pHD™ Digital Differential On-Line pH/ORP Sensors

For moderate- or high-conductive applications (>10 μS/cm) such as monitoring raw water treatment.

- Field-proven differential electrode measurement technique offers better accuracy
- Replaceable salt-bridge/protector simplifies maintenance and extends sensor life
- Sensor requires a Hach sc200 or sc1000 Digital Controller

HACH®

Hach BioTector B7000 TOC Analyzer

A patented self-cleaning oxidation technology enables BioTector analyzers to easily handle difficult samples and significantly reduce the maintenance schedule and costs associated with traditional on-line measurement. BioTector analyzers eliminate build up issues from salts, particulates, fats, oils and greases that lead to drift and high maintenance. Configurations are available for TOC, TOC/TN, and TOC/TN/TP.

- Superior Reliability—Typically 99.7% uptime
- High Dependability—Patented two-stage advanced oxidation (TSAO) technology handles even the most challenging applications
- Smart Design—Self-cleaning technology and oversized tubing eliminates filtration and prevents clogging and sample contamination

TURBIDITY & SUSPENDED SOLIDS

EPA COMPLIANT

1720E Low Range Turbidimeter

Provides the sensitivity and stability required to continuously monitor turbidity at very low levels (0 to 100 NTU).

- Bubble removal system eliminates the most significant interference in low level turbidity measurement
- Simple plug-and-play connections
- Two year warranty

Hach ServicePlus® Certified Programs

At Hach we understand that your plant's problems are unique and we have developed Hach ServicePlus® Certified Programs that are vital to helping you solve your maintenance and support problems.

Whether it is a lack of resources or skills, an instrument that is down, ensuring the accuracy of readings or the need for a predictable budget, we have programs to fit the unique challenges you face at your beverage facility.

Too many vendors making it difficult to standardize quality processes? Hach can also service the non-Hach instruments in your facility to ensure that all your instruments are being maintained to the same standards.

Get your problems solved with Hach ServicePlus programs.

hach.com/service or call 1-800-227-4224

HACH®
SERVICEPLUS®
CERTIFIED PROGRAMS

HACH®

YOUR PARTNER FOR QUALITY ANALYSIS IN THE BEVERAGE INDUSTRY

We invite you to take a look at our comprehensive line of product solutions and services. They're the most accurate, dependable, and cost-effective products you can buy.

Hach offers instruments for the measurement of beverage quality parameters such as Oxygen, Carbon Dioxide, Brix, as well as:

- On-line process instrumentation and reagents

- Laboratory equipment, reagents, and supplies

- Portable test kits and field instruments

- Automatic samplers and flow meters

- A global company with local sales and support teams

- Service partnership programs and customized training

For more information, please contact:

To see the complete portfolio for the beverage industry, please visit:
hach.com/brewingguide
hach.com/bottledwaterguide
hach.com/softdrinkguide

HACH®

Be Right™