

## Real-Time Process and Laboratory Analyzers for Gas, Water and Liquid Applications

### Mass Spectrometers & Laser Spectroscopy Analyzers



### Fermentation, Brewing & Cell Cultures

#### Applications:

- Fermenter bioreactor off-gas composition analysis
- Fast and accurate analysis for control parameters such as:
  - Oxygen Uptake Rate (OUR)
  - Carbon Dioxide Evolution Rate (CER)
  - Respiratory Quotient (RQ) and fermentation end point
- Continuous monitoring to improve yield / quality and reduce waste - single species or multi-component analysis (e.g. CO<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>, Ar, H<sub>2</sub>O, CO, H<sub>2</sub>, He, hydrocarbons, alcohols, aldehydes, sulfurs)
- Active Pharmaceutical Ingredients (API) and biomolecule production



Real-Time, Multi-Stream Mass Spectrometer Gas Analyzer for Accurate OUR, CER and RQ calculations  
**MGA 1200CS™**



Benchtop Mass Spectrometer for Real-Time, Multi-Stream, Bioreactor Control  
**MAX300-LG™**



CRDS Trace Gas Analyzer for ppb-Level Detection of H<sub>2</sub>O, CH<sub>4</sub>, CO, CO<sub>2</sub> and C<sub>2</sub>H<sub>2</sub>  
**Spark™**

### Spectrometers & Electrochemical Analyzers



### Pure Gas, Beverage Gas & Gas Blends

#### Applications:

- Beverage and fill gas quality, process control and compliance
- Trace analyzers for H<sub>2</sub>O, O<sub>2</sub>, CH<sub>4</sub>, CO<sub>2</sub>, CO, C<sub>2</sub>H<sub>2</sub>, and more, from ppb to % level detection capability



Real-time, Mass Spectrometer for Multi-Impurity Analysis  
**MAX300-RTG™ 2.0**



Intelligent Aluminum Oxide Dew Point Meter with Integrated, Custom Sample Systems Available  
**Series XDT™**



Loop-Powered Aluminum Oxide Dew Point Meter with Hyper-Thin-Film Technology  
**LPDT2™ and HDT™**



CRDS Multi-Species Trace Gas Analyzer for H<sub>2</sub>O, CO, CO<sub>2</sub> and CH<sub>4</sub> from ppb to ppm Levels  
**Prismatic™ 3**

## Optical Spectroscopy Analyzers & Probes



## Milk & Dairy Products

### Applications:

- Laboratory and process spectroscopic analyzers for multi-parameter process development and product quality analysis
- Low fat liquids
- Dairy sample probes with sanitary tri clamp flange



Optical Probes for Continuous Monitoring Applications and Benchtop Measurements  
**SST™ Lab Probe**



FT-NIR Process Analyzer  
**ANALECT® DIAMOND MX™**



Benchtop, Rugged At-Line FTIR/  
FT-NIR Process Lab Analyzer  
**ANALECT® DIAMOND 20™**



Process NIR Spectrometer for  
In-line, Multi-Parameter Analysis  
**NIR-O™**



Full Spectrum NIR Laboratory  
Spectrometer for Multi-Parameter  
Process Development and Product  
Quality Analysis  
**LAB NIR-O™**

## Water Quality Analyzers



## Water Quality & Wastewater

### Applications:

- Online water quality analysis for Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD)
- Water influent and effluent discharge control for environmental compliance
- Water For Injection (WFI)
- Monitor return/boiler water quality to prevent system corrosion
- Palm oil processing TOC
- Saccharine and trace organics in water (ppm level)



TOC Water Analyzer for Harsh  
Wastewater Applications  
**QuickTOCultra™**



TOC Water Analyzer for  
Clean Water Applications  
**QuickTOCuvII™**



TOC Water Analyzer for Pure and  
Process Water Applications  
**QuickTOCpurity™**



COD Water Analyzer  
for Laboratories  
**QuickCODlab™**

## Mass Spectrometers & Optical Spectroscopy Analyzers



## Dryers & End Point Determination

### Applications:

- Accurate endpoint determination to improve product yield and production efficiency, and minimize waste
- Configured to easily switch between multiple drying chambers, even if different solvents are present
- Optimized sampling for ambient pressures, vacuum drying, and lyophilization
- Trace moisture analysis and multi-species analysis of solvents, including IPA, MEK, DCM, ethyl acetate, styrene, acetonitrile, etc.



Real-Time, Multi-Stream, Industrial Mass Spectrometer for Solvent Drying and Endpoint Determination  
**MAX300-BIO™**



Benchtop Mass Spectrometer for Real-Time, Multi-Stream, Solvent Drying and Endpoint Determination  
**MAX300-LG™**



CRDS Trace-Level Low-Pressure Moisture Analyzer for Lyophilization  
**HALO RP™** and **HALO QRP™**

## Electrochemical & Chilled Mirror Analyzers



## Facility, Safety & Compliance

### Applications:

- Oxygen safety monitoring
- Quality of process gas supplies (CDA, N<sub>2</sub>, CO<sub>2</sub>, etc.)
- Online and/or remote moisture sensor calibration and control
- ppb to 100% moisture; 0 to 25% O<sub>2</sub>



Oxygen Deficiency Monitors  
**Series 1300™**



Aluminum Oxide Dew Point Meters and Transmitters with Hyper-Thin-Film Technology for Portable/Fixed/Loop-Powered Applications  
**XPDM™ | HDT™ | LPDT2™**



Chilled Mirror Hygrometers measuring moisture and humidity for reference and validation  
**MODEL 373™**



## Spectrometers, Electrochemical & Chilled Mirror Analyzers



## Controlled Atmosphere, Incubation & Glovebox

### Applications:

- Real-time, in situ glovebox and incubation monitoring
- Ideal for vessel and climatic chamber monitoring and validation
- ppb to 100% H<sub>2</sub>O and O<sub>2</sub> (aerobic or anaerobic activity), relative humidity and dew point, temperature and compositional gas analysis
- Glovebox moisture, temperature and dew point sensor validation



Aluminum Oxide Dew Point Meters and Transmitters with Hyper-Thin-Film Technology for Portable/Fixed/Loop-Powered Applications  
**XPDM™ | HDT™ | LPDT2™**



Portable and Fixed Trace-to-Percent Oxygen Monitors  
**Series 3520™ and OXY-SEN™**



Chilled Mirror Dew Point Hygrometer with Measuring Head for Temperature and RH Measurements  
**MODEL 373™**



CRDS Trace Gas Analyzer for ppb-Level Detection of H<sub>2</sub>O, CH<sub>4</sub>, CO, CO<sub>2</sub> and C<sub>2</sub>H<sub>2</sub>  
**Spark™**



Lab Mass Spectrometer for Real-Time, ppb-Level to 100% Catalysis, Reaction Monitoring, and Environmental Research  
**MAX300-CAT™**



Lab Mass Spectrometer for Real-Time, ppb-Level to 100% Compositional Analysis of Glovebox Gases  
**MAX300-LG™**

For a complete range of products, applications, systems, and service options, please contact us at: [info@process-insights.com](mailto:info@process-insights.com)

For a complete list of sales & manufacturing sites, please visit:  
<https://www.process-insights.com/about-us/locations/>



REVOLUTIONIZING MEASUREMENT

**EVERYWHERE**