

## Real-Time and Fixed Point Solutions for Process and Laboratory Applications



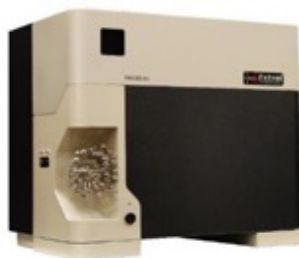
### Cell Culture Control

#### Applications:

- 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, etc.)
- Active Pharmaceutical Ingredients (API) and biomolecule production



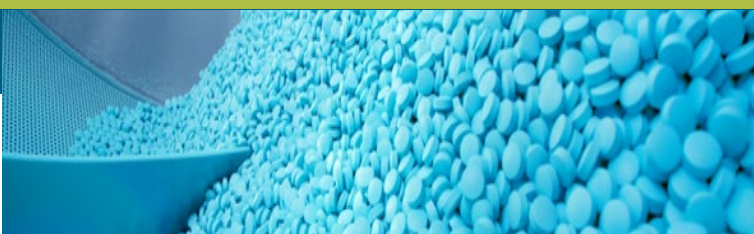
Real-Time, Multi-Stream Mass Spectrometer Gas Analyzer for Accurate OUR, CER and RQ  
**MGA 1200CS™**



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



Mass Spectrometer for Real-Time, Multi-Stream, Bioreactor Control  
**MAX300-RTG™ 2.0**



### Solvent Drying

#### Applications:

- Accurate endpoint determination to improve product yield and production efficiency, and minimize waste
- Easily switch streams to monitor multiple chambers using the same, or different, solvents
- Optimized sampling for ambient pressures, vacuum drying, and lyophilizers
- Trace moisture analysis and multi-species analysis of solvents, such as IPA, MEK, DCM, ethyl acetate, styrene, acetonitrile, etc.



Mass Spectrometer for Real-Time, Multi-Stream, 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™ / HALO QRP™**



### Applications:

- Sterilization validation in vacuum and ambient air
- Life Safety Monitoring in critical areas for oxygen deficiency, Acetonitrile, and other solvents, ethylene oxide, and more
- Solvent Clean In Place (CIP)

## Laboratory, Safety, & Compliance

### Sterilization



Dual Beam Photometer for Real-Time Hydrogen Peroxide Vapor Sterilant Gas Monitoring  
**ClearView db® VHP/HPV Solution**



Relative Humidity, Dew Point and Multi-Channel Temperature Analysis  
**CV180™ Thermo Hygrometer**



Chilled Mirror Dew Point Laboratory Reference Hygrometer  
**Model 373™**

### Life Safety Monitoring



Percent and Trace Oxygen Analyzers and Oxygen Deficiency Safety Monitors  
**Series 2000™ and ZRO2000™**

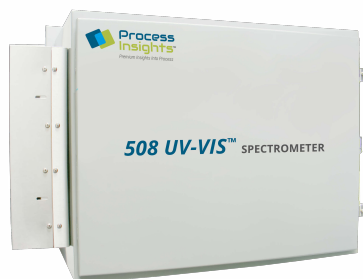


Powerful Quadrupole Mass Spectrometer for Toxic Gas Ambient Air Monitoring  
**MAX300-TGM™**



CRDS Analyzer for Ethylene Oxide for Trace Gas Monitoring  
**T-I Max EtO™**

### Solvent Clean In Place (CIP)



Single Channel, Fiber Optic, UV-Vis Spectrometer System  
**Lab 508™ Full Spectrum Benchtop Analyzer**



## Glove Box Monitoring

### Applications:

- Real time, in situ glove box 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
- Glove box moisture, temperature and dew point sensor validation



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



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



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™**



Laboratory Mass Spectrometers for Real-Time, ppb-level, Multi-Impurity Analysis  
**MAX300-LG™**



Benchtop Mass Spectrometer for Real-Time ppm to Percent-Level, Multi-Impurity Analysis  
**MAX300-CAT™**



Chilled Mirror Dew Point Hygrometer with Measuring Head for Temperature and RH Measurements  
**973 Model™**



## GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

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### **ETA Process Instrumentation**

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