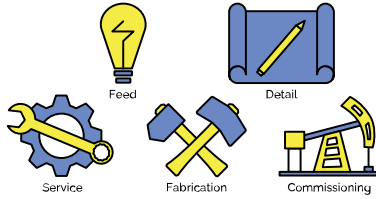


**INSIGHT**  
INTEGRATION

Insight Analytical Solutions can facilitate your measurement project through all its phases. From front end engineering design to detail engineering to fabrication/FAT to field commissioning, our talented team of scientists, engineers and technologists are here to help.

**Why Insight Integration?**

- Sample system excellence and training.
- Impeccable documentation and standards.
- Commitment to results and support.



**Amazing Applications**

- Custom sample systems.
- Process analyzer integration and implementation.
- Full analyzer buildings, metering skids and LACT units.

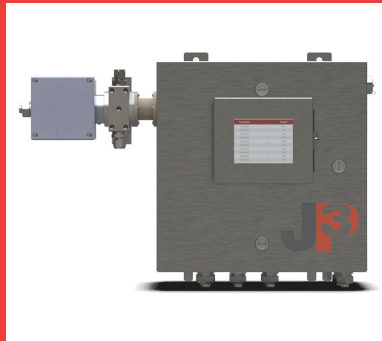
**Fantastic Features**

- Full 3D (Solid-works and 2D (AutoCad) drawing packages.
- Installation and operation manuals.
- World class field support.



Critical Data. Real Time.

JP3's Verax analyzer uses a powerful tuned laser based spectrometer to do real-time analysis of hydrocarbon fluids, both gases and liquids, using near infrared (NIR) spectroscopy. The process interface is extremely robust and suitable for use on difficult streams such as waxy condensates and dirty crude oil. Advanced chemometrics algorithms provide real-time compositional and physical property measurements, replacing chromatographs and vapor pressure analyzers.



**Why JP3?**

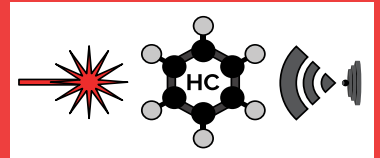
- Revolutionary approach to process measurements.
- Focused on gas plants, oil & gas pipelines and refined products.
- Suitable for difficult field applications with virtually no maintenance.

**Amazing Applications**

- Full gas plant, NGL, condensate and fractionation plant analysis (gases & liquids).
- Crude oil, condensate and diluent blending.
- Pipeline applications for real-time product quality and transmix optimization.

**Fantastic Features**

- Unique state of the art near infrared spectrometer with real-time analysis.
- Cloud based support, chemometrics and modeling.
- Robust, reliable, maintenance free operations.



**Amazing Applications**

- SAGD steam generators.
- Gas turbine control.
- Fuel blending control.

**Fantastic Features**

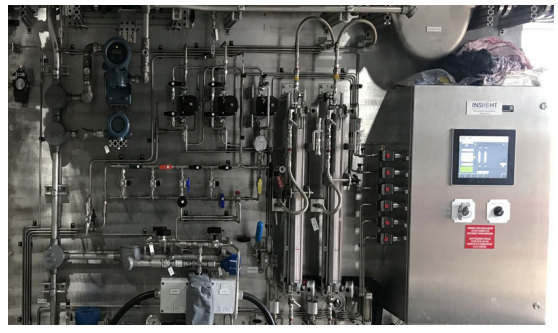
- Industry proven residual oxygen method.
- Fast response.
- Wide measurement range.
- Low maintenance.

With cutting edge technology based on aggressive internal development and a wide range of partners, COSA Xentaur delivers robust cost-effective instrumentation solutions. The COSA Xentaur portfolio ranges from dew point measurement solutions, analytical laboratory equipment, NMR technology, WOBBE and BTU index analyzers.

**Why COSA Xentaur?**

COSA Xentaur combines the strength of over 30 years of COSA Instruments experience with Xentaur Corporations innovative measurement solutions, leading to an evolved company focussed on providing innovative, reliable and affordable solutions to a wide range of analytical and process measurement applications.





#### Amazing Applications

- Fully integratable with inferential analyzers for model building.
- Monitor blending operations day and night.
- Sample truck loading and offloading facilities without operator intervention.

#### Key Features

- Full graphical user Interface.
- Data automation – date, time stamping, physical data all recorded.
- Repeatable, reliable sampling with no human intervention or risks of exposure.

# INSIGHT GRAB SAMPLER

Many processes, pipelines and operations are monitored by pulling samples and taking them to the lab. There are common issues like taking samples incorrectly or improper chain of custody. Insight Automated Grab Samplers prevent both of these issues by programming the sampling procedure in a PLC, ensuring it is done safely, correctly and on demand while recording the chain of custody information in the PLC.

#### Why Insight Grab Sampler?

- Designed for sampling volatile liquids like C3+, C5+, crude oil.
- Designed specifically for the oil and gas industry.
- Tested and proven at plants and on pipelines.

## MARQMETRIX

The MarqMetrix Raman All-In-One is everything needed to take high-quality and non-destructive Raman measurements without sample preparation. Combined into a single unit, the AIO includes spectrometer, laser, TouchRaman® Ball-probe®, and built-in acquisition computer. Portable, high performance and priced to be installed at all points of compositional need, the AIO eliminates the need for expensive, complex and bulky Raman equipment.



#### Amazing Applications

- Chemicals and hazardous materials manufacturing.
- Refining, natural gas and other petrochemicals.
- Polymers and plastic manufacturing.
- Biopharmaceutical manufacturing.
- Pharmaceuticals manufacturing.

#### Fantastic Features

- Sized to be placed anywhere.
- Spectral range: 100-3250  $\text{cm}^{-1}$ .
- Wireless remote operation.
- Multiple instrument control.
- Factory-calibration stability.

#### Why MarqMetrix?

- Patented Ball-probe® maximizes light collection and simplifies raman spectroscopy.
- High optical efficiency gives faster response and better detection ranges.
- Open chemometric architecture and great application flexibility.



# INSIGHT COMPOSITE

Insight Composite Samplers have been designed while working in conjunction with one of the largest midstream companies in Canada. Our composite samplers are fully API 8.2 compliant and meet all the requirements of AER Directive 17. We integrate them in any enclosure or shelter, and incorporate all the features to properly pull samples for lab analysis.

#### Why Insight Composite Samplers?

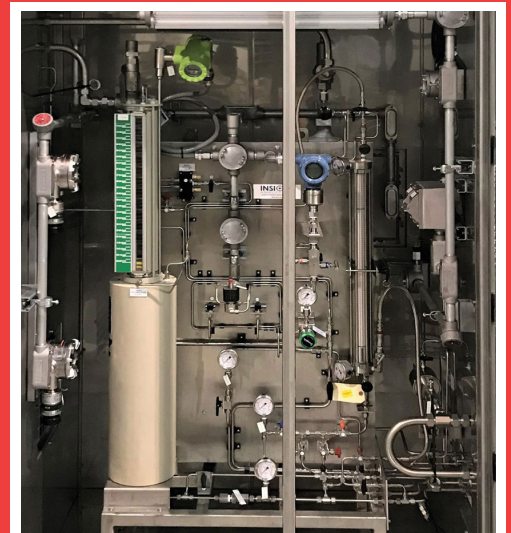
- Specifically designed for NGL's, condensate and crude Oil.
- Simple operation with detailed instructions and support.
- API 8.2 and AER Directive 17 compliant.

#### Fantastic Features

- Customizable design with full CRN in all configurations.
- Simplified operations with color coded valves and detailed instructions.
- Complete solution for pipeline and custody transfer applications.

#### Amazing Applications

- LPG for ship loading and off loading.
- Integrates with all LACT units.
- Applicable to all volatile liquids.



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Making Measurements Matter.

Alpha Omega Instruments provides a wide range of percent & trace oxygen analyzer solutions to provide accurate and reliable O<sub>2</sub> analysis for a variety of industrial, commercial, governmental, and educational applications. AOI O<sub>2</sub> analyzer solutions ensure worker safety and are designed to meet precise process/manufacturing requirements. AOI provides detailed explanations of the pro's & con's of each sensor type as well as being committed to providing technical support and information, ensuring the best possible product selection for your process.

### Why Alpha Omega Instruments?

- Exceptional pre-sale and after-market support and service.
- Wide range of product selection to meet any process requirements.
- Trace/Percent O<sub>2</sub> reading as low as PPB.
- AOI electrochemical sensors provide up to 3X the life of traditional 'fuel cell' type sensors.
- Next generation sensor technology.

### Fantastic Features

- Enhanced Electrolyte System (EES).
  - ◆ Full 3 year warranty.
  - ◆ Continuously renews sensor.
- Auto Multi-ranging.
- Portable trace/percent O<sub>2</sub> solutions with built in rechargeable NICAD batteries.
- Zirconium Oxide Fast Response O<sub>2</sub> Analyzer.

### Amazing Applications

- Waste gas monitoring at nuclear plants.
- Power plant hydrogen cooled generators.
- PPM O<sub>2</sub> for Welding applications.
- Ammonia production.
- Glove Box O<sub>2</sub> analyzer.
- CO<sub>2</sub> and O<sub>2</sub> in Bioreactors.



### Amazing Applications

- Natural gas pipeline quality control for water and hydrocarbon dewpoint.
- Boiler and gas turbine protection through measurement of hydrocarbon dewpoint.
- Monitoring chemical plant inlet of hydrocarbon streams for dewpoint protection.

### Fantastic Features

- No calibration.
- No consumables.
- Self cleaning.
- Immune to contaminants.
- Robust and highly reliable.



ZEGAZ Instruments products use the patented CEIRS™ (Chilled-mirror Evanescent IR Spectroscopy) that combines the first-principle chilled-mirror method with advanced IR spectroscopy to accurately and unambiguously determine the dew point of water and hydrocarbons in natural gas streams for pressures of up to 2000 psig. These analyzers are rated for Hazardous Location operation.

### Why ZEGAZ Instruments?

- Patented CEIRS™ technology for first principle measurement.
- The only single instrument to measure both water and hydrocarbon dewpoints.
- Operates at line pressures with minimal sample handling and risk of phase change.



### Amazing Applications

- Custom fast loop return probes.
- Auto shut off valves.
- Solvent flush / back flush tanks.
- Cost effective natural gas sampling probes.
- A host of new innovations to come.

### Fantastic Features

- 3D Printing of prototypes in plastic and metal.
- Computational fluid dynamics modelling.
- Built for process applications.
- Engineered for success.

Years of experience in the field brings an acute awareness of the common problems seen in many applications. At Insight, we apply that awareness to develop novel cost effective solutions to common sampling issues and improved systems for field use.

### Why Insight Innovations?

- Field hardened and battle ready solutions.
- Practical approach to problem solving that addresses both cost and effectiveness.
- Full 3D modelling, CFD, FEA results in fast turnaround manufacturable products.



Atom Instrument offers the industries most versatile Total Sulfur Analyzer with the fastest response time of any commercially available analyzer. ATOM utilizes patented Excimer UV Fluorescence technology – the most simple and practical low-level sulfur analytical technique, with high purity emission and longer lamp life. ATOM provides high sensitivity and the widest linear dynamic range in the industry.



#### Why ATOM Instrument?

ATOM Instruments Excimer technology is the principal technology used in all total sulfur analyzers. There are numerous benefits to using this technology – increased reliability, reduced maintenance, and the capability to design analyzers for ease of use.

#### Amazing Applications

- Total sulfur in natural gas/LNG products.
- Total sulfur in diesel and liquid fuels.
- Total sulfur & total nitrogen in fuels & chemicals
- Trace sulfur in butane & other gas/LNG applications.

#### Fantastic Features

- Fast response time - standard cycle 100 sec.
- Reliable & longer life cycle.
- No carrier gas or O<sub>2</sub>.
- Higher spectral purity.
- Higher relative sensitivity.
- Highly reduced nitrogen interference.
- Low utility consumption.



SpectraSensors, Inc. is part of the Endress + Hauser Group, a leading global provider of laser-based online field analytical instrumentation for process control and monitoring applications. SpectraSensors products are specifically designed to improve process efficiency, throughput and safety for natural gas productions, transport, storage, distribution, gas processing, refining, petrochemical, specialty gas production and atmospheric monitoring for weather prediction.



#### Why SpectraSensors?

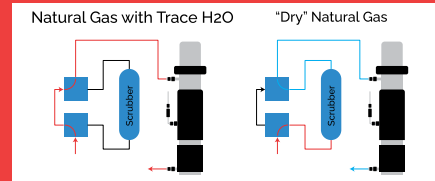
SpectraSensors utilizes proprietary extractive Tunable Diode Laser Absorption Spectroscopy and other spectroscopic techniques to deliver accurate and robust measurements with extremely fast response times.

#### Amazing Applications

- Natural gas - moisture/CO<sub>2</sub>/H<sub>2</sub>S detection.
- Moisture in alkylation feedstock.
- H<sub>2</sub>S in flare/fuel gas.
- CO<sub>2</sub> in coal liquefaction.
- H<sub>2</sub>O, CO<sub>2</sub>, H<sub>2</sub>S measurements in LNG.

#### Fantastic Features

- Convenient, cost effective solutions for gas analysis.
- Reliable operation under site-specific conditions.



#### Amazing Applications

- Toxic chemical release.
- TWA exposure limits.
- BTU.
- Explosive limit analysis.

#### Fantastic Features

- PPT detection limits.
- Extremely fast analysis time.
- Multi-port sample system for entire site monitoring.
- High precision & accuracy for safety/regulatory.

Extrel's products help organizations continuously identify and quantify various molecular components in process environments to ensure safe operations, increase process efficiency and product quality, reduce disruptions and downtime, and attain compliance with numerous regulatory requirements.

#### Why Extrel?

- 55 year history that's devoted to perfecting a single technology.
- Speciated, full composition analysis with updates in seconds.
- A proven process for unparalleled customer and project support.



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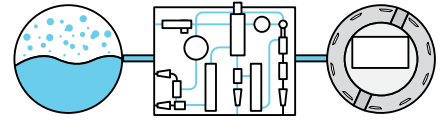
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Making Measurements Matter.



#### Why Barben Analytical?

- Reliable - in tough conditions
- Remote supervisory management.
- Replaceable sensor caps.
- Hazardous area certifications on analyzer & sensors.

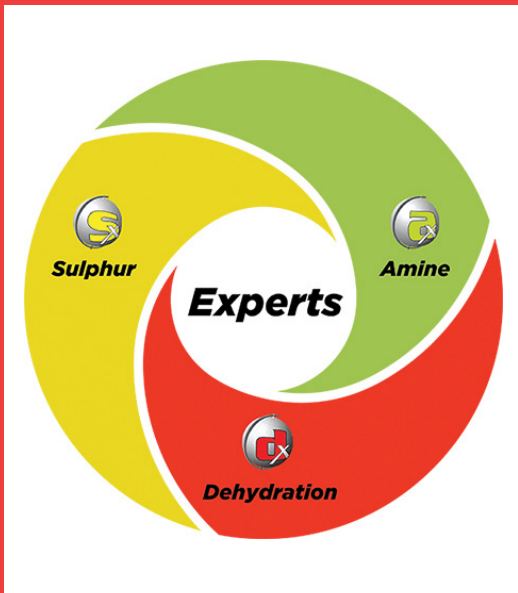
Market leading analytical supplier specializing in the design, manufacturing, and selling of analytical measurement products for process industries such as chemical, petrochemical, refining, oil & gas, pulp & paper, power, semiconductor, etc. Barben's core products consist of pH & ORP electrochemical sensors, as well as gas & liquid phase optical oxygen analyzers. These products help achieve higher levels of productivity, efficiency, and quality.

#### Amazing Applications

- O2 in hydrocarbon streams.
- Vapor recovery units.
- Custody transfer / metering stations.
- Trace level O2 in flare gas.
- Dissolved O2 in liquid/product streams.
- O2 in methanol/ethanol/oil.

#### Fantastic Features

- Measures O2 concentration in both gas & liquid phase applications.
- Temperature & pressure compensated.
- USB data trend storage.
- Local display HDMI for setup & configuration.



#### Amazing Applications

- Sulfur recovery unit testing.
- Amine stripping and acid gas injection.
- Natural gas dehydration optimization.
- Gas plant testing, recovery and optimization.



#### Fantastic Features

- International Experts for Decades
- Sophisticated lab and field methods.
- Full engineering design.
- Training courses re: sulfur, amine and dehydration.

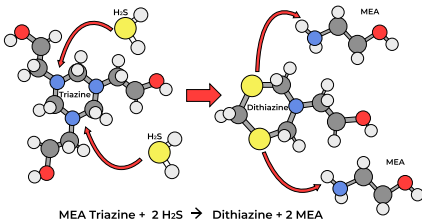
Sulphur Experts have the ability to field up to ten test crews simultaneously with all the equipment and engineering support required to meet the specialised on-site testing and evaluation needs of the clients.

#### Why Sulphur Experts?

- Sulphur Experts has the size and technical strength that sets them apart from their competition.
- Ability to provide on-site testing to evaluate needs of their clients.
- Provided solutions to sulphur plant problems for more than 30 years.

## INSIGHT DITHIAZINE TESTING

It is very common in the hydrocarbon processing industry to use MEA-Triazine to remove Hydrogen Sulfide (H<sub>2</sub>S) from produced fluids. The reaction product of this is a chemical called Dithiazine. Dithiazine has been known to precipitate in pipelines, compressor stations, distillation towers and methanol removal systems. Insight has commercialized two unique measurement solutions to address these problems.



#### Why Insight Dithiazine Testing?

- Established and field proven techniques developed for the pipeline industry.
- Commercialized systems ready for implementation at your site.
- Proven, cost effective testing of dithiazine concentration in the gases and presence in solids and liquids.

#### Amazing Applications

- Determination of dithiazine in natural gas pipelines.
- Protection of rotating equipment / compressors.
- Identification of solid & liquid contamination.

#### Fantastic Features

- Measurement at parts per billion levels.
- Easily deployed in the field.
- Test kits identify dithiazine deposits in minutes.





#### Amazing Applications

- Environmental monitoring.
- Municipal facilities water treatment.
- Reliable monitoring of surface water.
- River inflows.

#### Fantastic Features

- High speeds & uncompromised reliability.
- Various probe tubes for all applications.
- Microprocessor controlled measurement & calibration.



Hygrocontrol's product range covers water analyzers for the most important sum parameters as TOC, COD, TOD, BOD, toxicity, TN, TP, and Oil-in-Water. The measurement systems are used in three major areas of application: Environmental monitoring, municipal facilities and industry. Based on the analyzers' high precision and speed, they allow an optimal controlling of processes, safe supervision of industrial and municipal wastewater treatment plants, reliable monitoring of surface water and inflows of rivers/lakes.

#### Why Hygrocontrol?

- Proven thermal oxidation principle .
- Catalyst-free.
- No filtration necessary .
- Very low maintenance and operational costs .
- Exact determination of TC, TOC (TRUE TOC) and TIC.



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