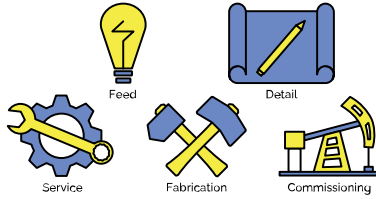


INSIGHT
INTEGRATION

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.

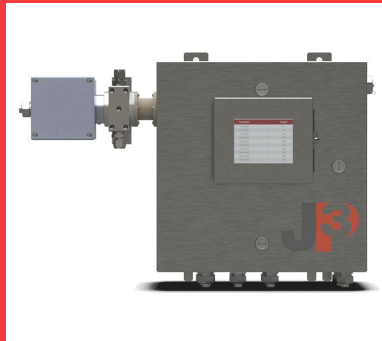
Fantastic Features

- 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?

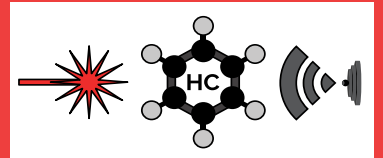
- Revolutionary approach to process measurements.
- Focused on gas plants, oil & gas pipelines and refined products.
- Suitable for difficult field applications with virtually no maintenance.

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.



COSA XENTAUR
a Process Insights Brand

Amazing Applications

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

Fantastic Features

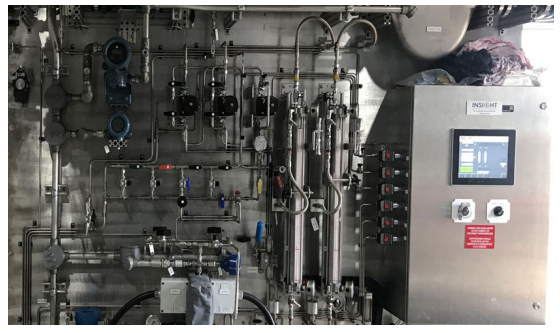
- Industry proven residual oxygen method.
- Fast response.
- Wide measurement range.
- Low maintenance.

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 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?

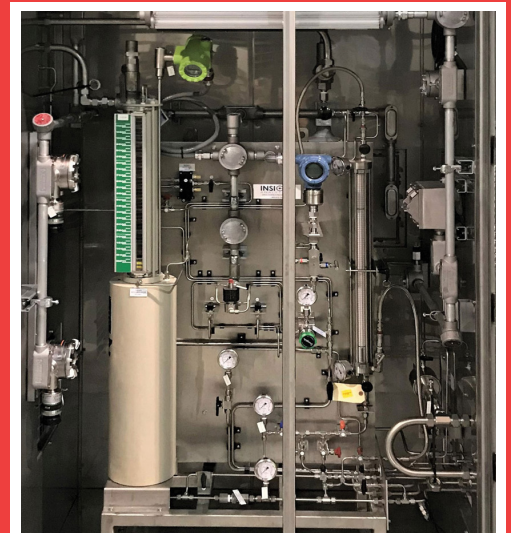
- Specifically designed for NGL's, condensate and crude Oil.
- Simple operation with detailed instructions and support.
- API 8.2 and AER Directive 17 compliant.

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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1(866)910-6280

Making Measurements Matter.

Alpha Omega Instruments provides a wide range of percent & trace oxygen analyzer solutions to provide accurate and reliable O₂ analysis for a variety of industrial, commercial, governmental, and educational applications. AOI O₂ 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 O₂ 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 O₂ solutions with built in rechargeable NICAD batteries.
- Zirconium Oxide Fast Response O₂ Analyzer.

Amazing Applications

- Waste gas monitoring at nuclear plants.
- Power plant hydrogen cooled generators.
- PPM O₂ for Welding applications.
- Ammonia production.
- Glove Box O₂ analyzer.
- CO₂ and O₂ 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 O₂.
- 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?

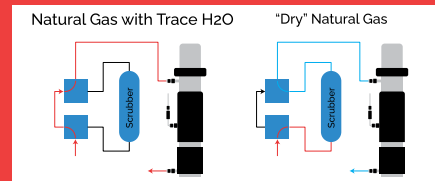
SpectraSensors utilizes proprietary extractive Tunable Diode Laser Absorption Spectroscopy and other spectroscopic techniques to deliver accurate and robust measurements with extremely fast response times.

Amazing Applications

- Natural gas - moisture/CO₂/H₂S detection.
- Moisture in alkylation feedstock.
- H₂S in flare/fuel gas.
- CO₂ in coal liquefaction.
- H₂O, CO₂, H₂S 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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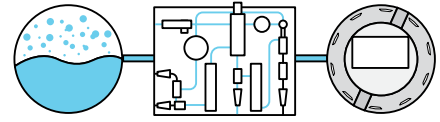
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Making Measurements Matter.



Why Barben Analytical?

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

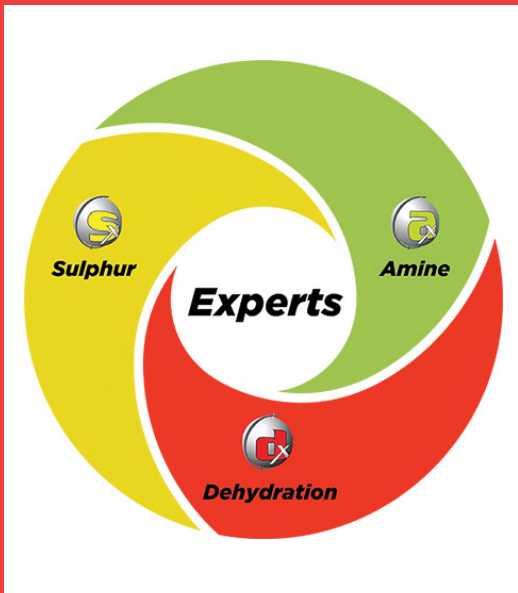
Market leading analytical supplier specializing in the design, manufacturing, and selling of analytical measurement products for process industries such as chemical, petrochemical, refining, oil & gas, pulp & paper, power, semiconductor, etc. Barben's core products consist of pH & ORP electrochemical 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.

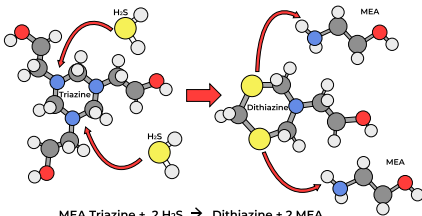
Sulphur Experts have the ability to field up to ten test crews simultaneously with all the equipment and engineering support required to meet the specialised on-site testing and evaluation needs of the clients.

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 (H₂S) 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.

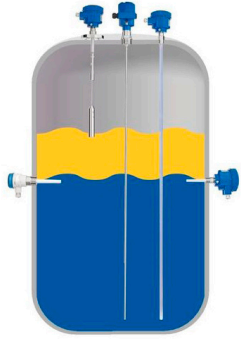
Fantastic Features

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





Point Level



RFnivo



- Variable extension lengths.
- Dielectric as low as 1.5DK
- Universal voltage.
- Temps up to 932°F
- Robust versions.
- EHEDG compliant.
- Active shield technology for anti caking.
- Remote housings.
- Self calibrating.

Rotonivo



- Variable extension lengths.
- Adjustable sensitivity.
- EHEDG compliant.
- Temps up to 2012°F
- Modular design.
- SIL2 compliant.
- Friction clutch protected motor

Mononivo



- Variable extension lengths.
- Bulk density as low as 1.25lb/ft
- Universal voltage.
- Temps up to 302°F
- Modular design.
- Compact with threads from 1"
- Built-in sensitivity adjustment.

Vibranivo



- Variable extension lengths.
- Bulk density as low as 3lb/ft
- Universal voltage.
- Temps up to 302°F
- Modular design.
- PFA & Teflon Coating.

UWT Liquids

Capanivo



- For use in non-metallic containers.
- Dielectric as low as 1.5DK
- 2 wire instrument.
- Temps up to 257°F
- Robust versions.
- Great for limited space.
- Corrosion resistance.

RFnivo



- Potted electronics.
- Dielectric as low as 1.5DK
- Rodor Metal Rope up to 82'
- Temps up to 752°F
- Active Shield Technology.
- Corrosion resistance.
- Caking resistant.

NivoCapa



- Continuous liquid measurement.
- 4-20 electronics.
- Dielectric as low as 1.5DK.
- Rodor Metal Rope up to 82'
- Temps up to 392°F
- Active Shield Technology.
- Corrosion resistance.
- Caking resistant.

UWT Continuous



Nivo Radar



- Measuring range up to 328'
- Dielectric as low as 1.6 DK
- Temps up to 392°F
- 78 GHz technology
- 4° Beam Angle
- Integrate Air Purge
- Removable Program Module
- 5-10° Aiming Flange Available



Amazing Applications

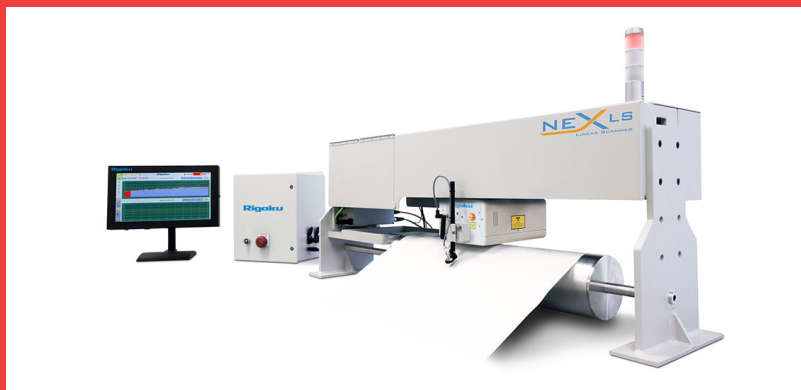
- Chemicals: blending additives and resins.
- Petroleum: lubricating oil additives and blending.
- Mining: solvent extractions.
- Industrial: wastewater.
- Metal finishing: plating, pickling, and pre-treatment baths.

Fantastic Features

- Real-time process control by elemental analysis.
- Measure elements aluminum ($_{13}\text{Al}$) to uranium ($_{92}\text{U}$)
- From ppm levels to weight percent (wt%) concentrations.
- Robust Rigaku NEX QC+ optical kernel with SDD detector.



Featuring advanced 3rd generation energy dispersive X-ray fluorescence (EDXRF) technology, the Rigaku NEX OL represents the next evolution of process elemental analysis for liquid stream and fixed position web or coil applications. Designed to span from heavy industrial through to food grade process gauging solutions, the NEX OL is configurable for use in both classified and non-classified areas.



Rigaku NEX LS is specifically designed to service web and coil applications, with the ability to perform multi-element composition, coat weight or coating thickness. The measuring head is mounted on a rigid beam and is equipped with a linear traversing mechanism positioned over a roller so that the head-to-surface distance is constant. Where needed, elemental composition of a coating is measured directly. In contrast, coat weight (or coating thickness) may be measured directly (where counting rate for an element is proportional to thickness) or indirectly by measuring attenuation of some substrate element (where counting rate is negatively correlated to thickness).

Amazing Applications

- Silicone release coaters.
- Vacuum formed plastics.
- Specialty/Metalized plastics.
- RoHS compliance.
- Conversion coatings.
- Top coatings on metal coils.

Fantastic Features

- Real-time, on-line elemental analysis.
- Rapid, non-destructive measurement.
- Coat weight, coat thickness and/or composition.
- Multi-element composition.
- Tighter process control tolerances.

Rigaku's NEX XT is the next generation process gauge for high-level total sulfur measurement (0.02% to 6% S) of crude, bunker fuel, fuel oils, and other highly viscous hydrocarbons, including residuum. This versatile, compact, and robust X-ray Transmission / Absorption (XRT / XRA) process gauge is specifically optimized for the total sulfur analysis needs of refineries, pipelines, blending operations, bunkering terminals, and other storage facilities.

Fantastic Features

- Compact design with no routine maintenance.
- Up to 1450 psig and 200°C.
- User-adjustable data update frequency.
- Reduced standards requirements.
- No sample condition or recovery system.

Amazing Applications

- Pipelines
- Upgrading Facilities.
- Refineries.

