

SOLUTIONS GUIDE

Process Insights

Gain real-time insights into your process

Analytical instrumentation, process control, water analysis, and safety monitoring solutions.



Instrumentation

Sensors

Services

Analytical Solutions

- Real-time industrial process control
- Wastewater and pure water quality
- Environmental monitoring and compliance
- Analytical laboratory equipment

PROCESS INSIGHTS

Premium Insights into Process

Process Insights delivers innovative and affordable sensors, monitors, analyzers, instrumentation and software that provide precise performance you can trust.

Solutions from Process Insights have prevailed for decades in harsh, hazardous and unforgiving operating environments in the most demanding, mission-critical, and high-speed applications. With an emphasis on innovation and

differentiated solutions, we provide technologies that add high value for our customers, promote operational excellence, and help them create the products and services that make our lives better. All of the solutions in our portfolio are rooted in the core values that define who we are. Read on and get to know how our innovative technologies and unmatched expertise combine to provide you with premium insights into your processes.

Markets Served



A WORLD LEADER IN THE DEVELOPMENT AND MANUFACTURE OF ANALYTICAL SOLUTIONS FOR GAS, MOISTURE AND LIQUIDS.

Solutions from a single source

We pride ourselves on our technical application knowledge and our willingness to provide innovative analyzers and solutions for our customers from within a broad portfolio of technologies. Together we will successfully monitor, control and optimize your processes.

Service commitment

We build long-term, trusting relationships with our customers and partners. Our commitment goes far beyond sales and commissioning. We offer a wide range of service activities and resources to support our customers' installations anywhere in the world — on-site or remotely.

A diverse product line, unique features, and world class support for a wide range of measurements

ANALYZER TECHNOLOGIES

- Analytical laboratory equipment
- Calorimeters
- Cavity Ring-Down Spectroscopy (CRDS) analyzers
- Chilled-mirror hygrometers
- Dew point meters and transmitters
- Elemental analyzers for Sulfur and Nitrogen
- FTIR, NIR and UV-Vis analyzers
- Gas analysis systems
- Mass spectrometers and MS systems
- Oxygen deficiency safety monitors
- Oxygen percent and trace monitors
- Relative Humidity hygrometers
- Water quality analyzers for TOC, COD, BOD

CORE COMPETENCIES

- Chemical composition of gases and liquids
- Real-time industrial process and feed-forward control
- Online quality monitoring for gas and liquid feedstocks
- Refining and petrochemical analyzers
- Wastewater and pure water quality
- Total sulfur and nitrogen in hydrocarbons
- Natural gas Heating Value/BTU analysis, moisture and sulfur
- Fuel gas, combustion control and emissions
- Moisture and humidity in hydrocarbons, purity gases, and critical environments
- Environmental compliance analyzers for flare gas and fuel gas
- Real-time fence line and air safety monitoring
- Percent and trace level oxygen for process and labs
- UHP gas analysis for trace contamination
- Hydrogen, biofuels and alternative energy production
- Controlled atmosphere monitoring
- Bioreactor and fermentation control
- Pharmaceutical solvent drying
- Residual Gas Analysis (RGA) and vacuum monitoring

WATER ANALYZER

Solutions for TOC, COD, BOD, TN_b, and Toxicity

Process Insights is a leading global provider of analytical instrumentation and process solutions for water and wastewater.

Our solutions are designed to simplify analysis by providing sophisticated online instrumentation, accurate laboratory equipment, and easy-to-follow methods. Effective public

and industrial water management involves optimizing efficiency, safety and regulatory compliance. Our laboratory and online analytical instruments combine extensive experience with unmatched quality and innovation to ensure simplicity and safety. Together, we can overcome your analytical challenges, improve water safety and achieve cost savings.

With decades of experience, Process Insights offers an extensive range of water quality analyzer for various industries.



Applications

Pure Water

- Boiler Feed Water
- Condensate Return
- Semiconductor UPW
- Pharma HPW/WFI

Process Water

- Cooling Water
- Drinking Water
- Environmental Monitoring

Wastewater

- Industrial Wastewater
- Water Effluent
- Discharge Control
- De-icing Water

Measurements

- Total Organic Carbon (TOC)
- Chemical Oxygen Demand (COD)
- Biochemical Oxygen Demand (BOD)
- Total Nitrogen bound (TN_b)
- Toxicity
- and more



MOISTURE SOLUTIONS

Dew Point Meters, Transmitters and Chilled-Mirror Hygrometers

Process Insights has a premium portfolio of technologies for nearly all moisture and dew point measurements.

Our dew point meters and relative humidity measurement solutions are ideal for quality control, production and in-process monitoring in the pharmaceutical, chemi-

cal, plastics, and food and beverage industries, as well as in research and metrology laboratories. With their user-friendly interface, our multifunctional dew point and humidity instruments are fast, accurate and require little maintenance.

Measurements

Aluminum Oxide Dew Point Meters

- Fixed and portable solutions
- Patented Hyper-Thin-Film (HTF™) Aluminum Oxide Technology

Polymer Relative Humidity Sensors

- Based on a patented polymer and plating process
- Relative humidity and temperature meter (hygrometer)

Chilled-Mirror Hygrometers

- Unmatched technology and precision
- Used to maintain and improve humidity standards in many national metrology institutes

Calibrations

Process Insights operates accredited calibration laboratories for humidity and temperature according to DIN EN ISO/IEC 17025. The measurement uncertainties for our calibration services are among the lowest in the world.

- German Accreditation Body (DAkkS)
- Swiss Accreditation Service (SCS 0125)



Applications

- Automotive (cleanroom and paint shop climate control)
- Ceramics manufacturing (drying processes)
- Chemicals (process monitoring)
- Food (maturation, packaging, storage, and transportation)
- Medical (sterilizing equipment monitoring)
- Pharmaceutical (material conditioning)
- National Metrology Institutes
- Commercial Calibration Laboratories
- Environmental Humidity Measurement
- Climatic Chamber Validation
- Electrical Power Industry
- SF6 Gas & Measurement

With an unsurpassed range of moisture and humidity technologies, we offer you the solutions and calibration services you need.

CALORIMETERS

Calorimeter Solutions for Wobbe, Heating Value (BTU) and CARI

Oil refineries and chemical plants need fast, reliable fuel gas and flare gas combustion measuring solutions for optimizing process efficiency and environmental compliance.

Process Insights calorimeters provide real-time, on-line determination of Wobbe index, heating value (BTU) and Com-

busation Air Requirement Index (CARI) allowing operators to improve the air/fuel ratio, minimize disturbances, and maximize the efficiency of combustion. Process Insights has calorimeters for all combustible gases, such as flare gas, fuel gas, syngas and natural gas - even low calorific gases can be measured.



Ensure compliance and efficient flare control with Process Insights calorimeters

Applications

- Compliance monitoring for Flare Stacks: US EPA and SCAQMD Rule 1118.
- Blast Furnace Gas
- Coke Oven Gas
- Combustion Control
- Flare Stack Monitoring
- Fuel Gas Optimization
- Gas Turbine Efficiency Control
- Hydrogen
- Natural Gas Blending
- Natural Gas Custody Transfer
- Steam Generation
- VOC and Storage

Measurements

- WOBBE Index
- Heating Value (BTU)
- Combustion Air Requirement Index (CARI)

Benefits

- Zero Hydrocarbon Emissions
- Direct Measurement of Calorific Heating Value
- H₂ Measurement Option



TRACE GAS ANALYSIS

Ultra Sensitive CRDS Gas Analyzers for Pure Gas

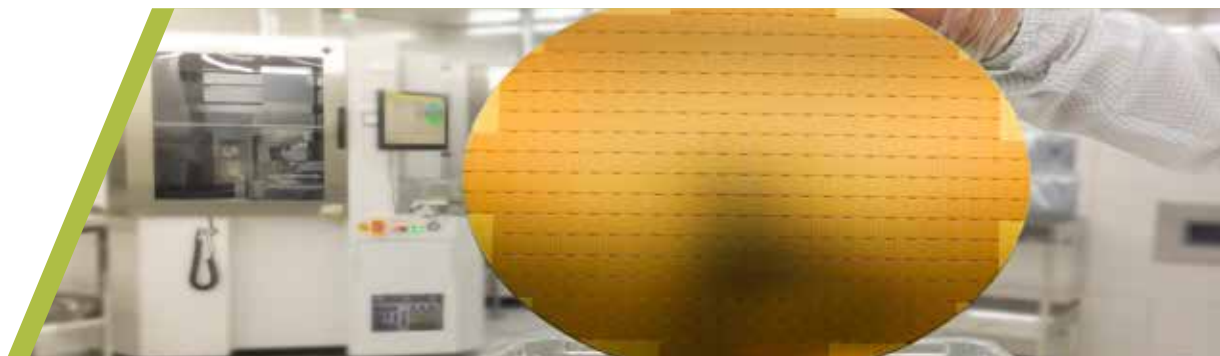
Process Insights provides the most reliable, precise trace gas analysis technologies available on the market.

Based on absorption spectroscopy, Cavity Ring-Down Spectroscopy (CRDS) works by attuning light rays to the unique molecular fingerprint of the sample species. By measuring the time it takes the light to fade or “ring-down”, you receive an accurate molecular count in milliseconds. Process Insights pure gas analyzers and systems provide the most sensitive, stable and reliable bulk gas continuous

quality control (CQC) monitoring for impurities pre- and post-purifier at PPB-PPT levels. Our unmatched expertise in CRDS technology is ideal for quality assurance applications in cylinder filling, welding, medical, industrial and high-purity gas production; bulk delivery and distribution transfer points; and more.



Leaders in CRDS laser-based analyzers for for the semiconductor and other pure gas industries



Applications

- Semiconductor & HB-LED
- Gases & Chemicals
- Laboratory & Life Science
- Energy
- Continuous Emissions Monitoring
- Atmospheric
- Toxic & Corrosive Environments
- Ultra High Purity

Benefits

- Extremely fast speed of response
- Industry-proven technology
- Freedom from the need for span calibrations
- No periodic sensor replacement/maintenance
- Wide range of detection limit
- Wide dynamic range and no drift

Measurements

- CO/ CO2
- H2
- H2O
- H2S
- HCl
- NH3
- O2
- and more

OXYGEN MONITORS

Trace and Percent Oxygen Analyzers and Transmitters, and Safety Monitors

Process Insights offers market-leading analyzers and transmitters for trace and percent oxygen and environmental safety (oxygen deficiency).

Oxygen measurement plays an important role in quality assurance and process control in numerous applications such as chemical manufacturing, stack gas analysis, and

glove boxes. We offer instruments for reliable, accurate oxygen analysis across all measurement ranges, from trace oxygen to high concentrations, as well as for hazardous areas and hygienic processes. Process Insights oxygen sensors for laboratory and field use are trusted by aerospace, pharmaceutical, biotechnology, chemical, and light bulb manufacturers, in addition to testing facilities worldwide.

Measurements

- Trace Oxygen
- Percent Oxygen
- Zirconia Oxygen Analyzer
- Oxygen Deficiency

Applications

- Bio-Research & Life Science
- Chemical & Petrochemical
- Combustion Control
- Power & Electrical Transformers
- Glove Boxes
- Industrial and Specialty Gases
- Medical & Pharmaceutical
- Semiconductor



We offer reliable, accurate oxygen analyzers for all measuring ranges, from trace oxygen to high concentrations.



MASS SPECTROMETERS

High-Performance Gas Analysis Solutions for Research and Industry

Process Insights mass spectrometers are known for having the extreme sensitivity and fast analysis essential for critical research and industrial process applications.

With a reputation for exceptional performance, reliability and flexibility, Process Insights is the premier choice for

today's leading researchers and manufacturers when it comes to high-performance mass spectrometer gas solutions. With real-time analysis, high sensitivity, and a wide dynamic range, Process Insights mass spectrometers allow for rapid, multi-step process control with a single analyzer providing full-composition updates in seconds.

Real-time quadrupole mass spectrometers and fixed magnetic sector analyzers for industrial process control, safety and environmental compliance



Applications

- Ammonia / Methanol
- Bioreactor monitoring
- Catalysis
- Emissions Monitoring
- Environmental Research
- Ethylene/ Ethylene Oxide
- Flare Gas
- Gas and Vapor Analysis
- Gas Purity
- Gasification / Syngas
- Hydrogen Production
- Metals Production
- Petrochemical
- Petrochemical Syngas
- Pharmaceutical solvents
- Polyethylene
- Reaction Monitoring and Kinetics
- Solvent Drying/ Solvent Recovery
- Vacuum Oxygen Decarburization (VOD)

Ultra-High Purity

- Atmospheric Pressure Ionization (API) mass spectrometers
- Real-time, multi-species monitoring for bulk electronic gases including trace impurities



Unparalleled measurement range from PPT to 100% with unique dual-source ionization configuration

ELEMENTAL ANALYZERS

Total-Sulfur and Total-Nitrogen Analyzers for Laboratories and Process

Process Insights established itself as a leading manufacturer of elemental analyzers for total sulfur and nitrogen in liquids, solids and gases.

Process Insights total sulfur and nitrogen analyzers use our proprietary Excimer UV Fluorescence technology. It combines exceptional accuracy, reliability, and speed of response with lower operating and maintenance costs to meet to-

day's emission standards and the challenge of future requirements.

Our products deliver accurate results for laboratory and online applications. In addition to speed, Process Insights sulfur and nitrogen analyzers offer the highest dynamic range on the market, which enables the measurement of a broad range of samples with a single method.



The Excimer UV Fluorescence method is the most simple and practical low-level sulfur analytical technique.

Measurements

- Total Sulfur
- Total Nitrogen
- in Gas, Liquid and Solids

Applications

- Petroleum
- Petrochemical
- Natural Gas & LNG
- Flare Gas
- Pipeline
- Fuels



OPTICAL SPECTROSCOPY

Solutions for FTIR/-NIR, NIR, MIR and UV-VIS

Process Insights delivers a total solution including optically matched components and a well-planned calibration approach, leading to long-term success and savings.

Our complete analytical systems for process and laboratories utilize proven Fourier Transform Infrared (FTIR), Near Infrared (NIR), mid-infrared (MIR) and Ultraviolet/ Visible

(UV-VIS) spectroscopic techniques. They include optical insertion probes and flow cells, photometers, fiber optic cables, full-spectrum process spectrometers, sampling systems, and data analysis software. Our solutions are ideal for complex refinery applications such as fuels blending and component streams applications for polymers, petrochemicals, chemicals, pharmaceuticals, in addition to general manufacturing and hydrogen peroxide sterilization.

Solutions

- Full-spectrum spectrometers
- Optical probes and flow cells
- Photometers
- Fiber cables
- Sampling systems
- Data analysis software

Measurements

- Fourier Transform Infrared (FTIR)
- Fourier Transform Near-Infrared (FT-NIR)
- Near Infrared (NIR)
- Mid-Infrared (MIR)
- Ultraviolet/ Visible (UV-VIS)

Applications

- Octane/ Cetane in Refining
- End-Point determination in Polymer Production
- Sterilisation, H₂O₂ monitoring
- Color (e.g., APHA, Saybolt, ASTM)
- Ethylene oxide/ propylene oxide (EO/PO)

Our process and lab analyzers provide real-time, multi-component measurements for an extraordinary range of physical and chemical properties of liquids, solids and gases.



CUSTOMER SUCCESS

Process Insights - a strong partner at your side

Process Insights offers customer-focused solutions for your success - from simple equipment checks to full service agreements.

Our service awareness starts before the sale and goes far beyond commissioning. To solve your application questions and to increase the success of your measurement task, we offer comprehensive application reviews. After a solution has been found for your needs, we offer rental and lease-purchase as well as various payment models.

Process Insights has the flexibility to respond to your needs and minimize your risk.

Our Global Service provides a wide range of after-sales services to proactively maintain your analytical instrumentation. With fast repair and rapid turnaround, OEM spare parts, emergency response, and qualified field service experts, we ensure you get the best value for maximized uptime and peace of mind.



We offer customer-oriented solutions for your success - this starts before the sale and goes far beyond commissioning.

Pre-Sales

- Consulting to successfully solve your measurement task
- Comprehensive application tests
- Rental options
- Diverse financing solutions for risk minimization
- Mobile measurement solutions

After-Sales

- Factory Acceptance Tests (FAT)
- Site Acceptance Test (SAT)
- Commissioning
- Calibrations
- Repairs
- Training and education
- Analyzer upgrades

Maintenance Solutions

- Versatile contract options
- Preventive maintenance
- Regular maintenance
- Extensive maintenance agreements

*All services are provided on-site or remotely.
No matter where you are, we support you.*

GLOBAL SUPPORT

A worldwide strategy for ongoing customer success

Our Centers of Excellence manufacture and deliver a market-leading portfolio of analytical instrumentation, process control, water analysis, and safety monitoring solutions with global service and support. No matter what Process

Insights technology you purchased, or what part of the world you are located, you deserve the best in quality, sales, service and support.



PROCESS INSIGHTS GO

Real-time Remote Support Solutions

With Process Insights GO we offer a remote support platform for industrial services to reduce downtime, save service costs and ensure the effectiveness and quality of our customers' processes.

Plant operators and service technicians can connect with our service experts to ensure fast communication remotely. Whether via desktop PC, cell phone or smartglass, Process Insights GO is a service solution that provides fast and

effective support to reduce downtime and increase overall plant effectiveness.

Process Insights GO is a comprehensive remote support platform that enables digital collaboration and access to expert-level knowledge. It works on all major platforms, in a web browser, on PCs as a desktop application, on Android smartphones and tablets, on iPads and iPhones, and on smart glasses.



Process Insights GO enables full product and application service for when our customers need remote support.

Connect better, Diagnose quickly, Optimize operation

- Access to our professionals worldwide
- Enjoy fast, real-time connectivity
- Instant access to experts
- Track service progress
- Enable real-time remote diagnostics
- Manage multiple devices from a remote location
- Improved information accuracy, flow, and collaboration



Seamlessly connect with global experts to diagnose issues and gain real-time insights.



CALIBRATION CENTER

Accredited Calibration Laboratories for Humidity and Temperature

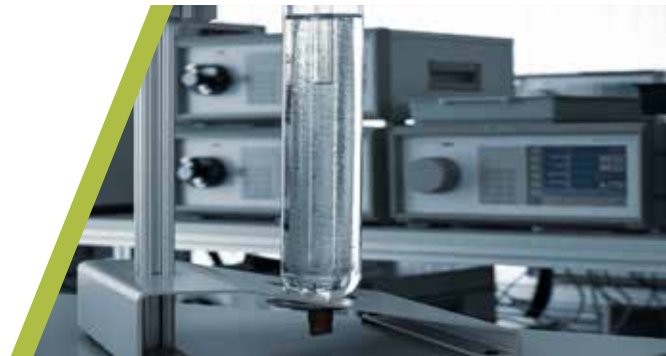
Process Insights operates accredited calibration laboratories for humidity and temperature according to DIN EN ISO/IEC 17025.

Regular quality control of measuring instruments is required by almost all quality assurance standards. Whether DAkkS or SCS - Process Insights has you covered. Our calibration centers ensure the traceability of the temperature and humidity to national and international standards. Our

laboratories have calibration systems based on both primary realizations and commercial humidity generators for calibration by comparison. Our frost/dew point transfer standards are calibrated at a number of National Metrology/Designated Institutes including PTB, NPL, BEV and NIST. Through the ILAC Mutual Recognition Arrangement (ILAC MRA) our calibration certificates are internationally recognized and suitable for evidence of traceability in all ILAC MRA signatory countries.



The measurement uncertainties for our calibration services are among the lowest in the world.



Calibration Services

- ISO calibration
- DAkkS calibration
- Factory calibration
- Repairs
- Calibration certificates conforming to standards

Parameter

- Frost Point
- Dew Point
- Relative Humidity
- Temperature
- Resistance
- Temperature Simulation

Benefits

- Increase in manufacturer quality
- Process reliability
- Confidence in the measuring equipment
- Avoidance of rejects and rework
- Compliance with standards, guidelines and certifications
- Protection against possible claims for compensation
- Audit security



Your global partner for calibration success

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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