Panametrics
a Baker Hughes business

Process Analyzers
Product Guide

Make process decisions with confidence
using accurate and reliable analyzers

Ensuring the integrity of your process liquids and gases

Panametrics, a Baker Hughes business, offers a wide array of process analyzers that enable you to make process decisions with confidence. Reliable and stable, our products and services are backed by decades of industry experience and by knowledgeable experts to help you understand your application.

We know that when it comes to process control, accuracy and reliability are two of the greatest factors when choosing a process analyzer. Because we serve such a wide variety of industries, applications, technologies, and use cases, we've developed one of the strongest portfolios of process analyzers on the market.

Industry applications

Panametrics' process measurement solutions cover a wide range of industries and applications.

Key to industries

- Power Plant
- Refinery / Petrochemical Plant
- Natural Gas
- Steel Plant
- Industrial Gases
- Pharmaceutical
- Food and Beverages
- Quality, Test and Calibration
- Hydrogen

	Product Technology	Power Plant	Refinery / Petrochemical Plant	Natural Gas	Steel Plant	Industrial Gases	Pharmaceutical	Food and Beverages	Quality, Test and Calibration	Hydrogen
Moisture Analysis	moisture.IQ Aluminum Oxide	✓	✓	✓	✓	✓		✓		✓
	dew.IQ Aluminum Oxide	✓	✓		✓	✓	✓	✓		✓
	PM880 Aluminum Oxide	✓	✓	✓	✓	✓	✓	✓		✓
	HygroPro[II] Aluminum Oxide	✓	✓	✓	✓	✓		✓		✓
	HygroPro XP Aluminum Oxide	✓	✓	✓	✓	✓		✓		✓
	MMY30 Aluminum Oxide	✓	✓	✓	✓	✓	✓	✓		✓
	MMY31 Aluminum Oxide						✓			
	Aurora Laser		✓	✓	✓	✓				
	Optica Chilled Mirror				✓	✓	✓	✓	✓	
	OptiSonde Chilled Mirror				✓	✓	✓	✓	✓	
	MMR30 Polymer Capacitance	✓					✓	✓	✓	
	MMR31 Polymer Capacitance						✓	✓	✓	
	MMR101 Polymer Capacitance				✓		✓	✓	✓	
Gas Analysis	XMO2pro Thermoparamagnetic		✓	✓	✓	✓	✓	✓	✓	
	oxy.IQ Electrochemical	✓	✓	✓	✓	✓	✓	✓		✓
	Delta F Non-depleting / Electrochemical		✓		✓	✓	✓			
	XMTCpro Thermal Conductivity	✓	✓	✓	✓	✓		✓		✓

Moisture, Oxygen & Gas Analysis

Moisture is considered a contaminant in many processes, causing corrosion in metal infrastructure, reduced process yield and impacting final product quality.

As such, industrial processes may contain a moisture removal step using dryers like molecular sieves or glycol contactors to ensure moisture in process gases and liquids stay below permissible levels. Moisture measurement and control is therefore a critical component for a whole range of industries like natural gas, petrochemical processing, power generation, semiconductor manufacture and industrial gas, among others.

Oxygen and gases such as hydrogen need to be measured and controlled in many processes and applications, from explosion prevention to ensuring process chemical reactions take place in a controlled manner.

Applications for oxygen measurement range from tank inerting in the chemical industry to purity measurements in food packaging. Hydrogen measurement applications include power plant generators and electrolyzers for hydrogen production.

The technologies used must be robust, reliable and proven in the field. Panametrics has a long tradition and experience in moisture, oxygen and gas analysis using various core technologies such as: aluminum oxide, laser, thermoparamagnetic, electrochemical, and thermal conductivity.

Moisture Analysis

Aluminum Oxide Technology

Panametrics aluminum oxide moisture sensors have set the standard in process moisture measurement for more than 60 years. The sensor consists of a porous oxide layer with a very thin metal coating. Water vapor rapidly equilibrates on the pore walls of the oxide layer. The number of water molecules adsorbed on the oxide structure determines the conductivity of the pore walls, which in turn is functionally related to the water vapor pressure expressed as water dew point, PPMv, PPMw, etc.

Benefits:

- The sensor reports pressure dew point at pressures up to 5000 psig (345 bar)
- Sensors work in liquid- and vapor-phase applications
- The sensor is calibrated in nitrogen for all applications
- Large dynamic measurement range: -110 °C to +60 °C dew/frost point
- Sensors are easy to replace in the field

FEATURES

- Intrinsically safe
- Optional built-in temperature and pressure sensors
- Nonvolatile calibration data storage
- Calibrations traceable to national standards

FEATURES

- Intrinsically safe
- Optional built-in temperature sensor
- Calibrations traceable to national standards

moisture.IQ

Multi-channel moisture analyzer for measurement in gases and liquids

The flagship analyzer of the IQ series is designed for installation in a control room or field setting, providing complete functionality where single or multiple measurements are required, for both moisture and oxygen analysis.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF6 gas
Transformer oil

Refinery / Petrochemical
Hydrocarbon Liquids
Hydrogen recycle gas
Utility gas/Instrument air
Ethylene
Polyethylene plant feeds

Natural Gas
Natural gas pipelines
LNG, LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- 1 to 6 channels of moisture and oxygen measurement
- Touch screen display
- Analog and digital outputs
- Compatible with MISP2 and M series aluminum oxide moisture probes
- 19" rack, panel, weatherproof wall-mount and explosionproof versions available

dew.IQ

Single-channel moisture analyzer for measurement in gases

An economical, single-channel, aluminum oxide hygrometer in the IQ Series line of analyzers. It is intended for industrial applications requiring accurate, real-time moisture measurement.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF_6 gas

Refinery / Petrochemical
Utility gas / Instrument air

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Pharmaceutical
Utility air
Instrument calibration

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- Rack, bench, panel and wallmount versions available
- Displays moisture content in dew / frost point and ppmv
- M Series or IQ.probe moisture probe compatible
- Intrinsic safe operation of M Series probe with external zener barrier

PM880

Rugged intrinscially safe portable moisture meter for gases and liquids

The PM880 is the number one hazardous area rated portable moisture meter on the market. It is designed to measure moisture in gases and hydrocarbon liquids across a broad spectrum of applications and industry segments. The compact and rugged design makes it suitable for use in the toughest of environments.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF_6 gas
Transformer oil

Refinery / Petrochemical
Hydrocarbon Liquids
Hydrogen recycle gas
Utility gas / Instrument air
Ethylene
Polyethylene plant feeds

Natural Gas
Natural gas pipelines
LNG, LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Pharmaceutical
Utility air

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- Intrinscially safe in a rugged compact package
- Measures moisture in gases and hydrocarbon liquids
- Internal data logger
- Lightweight handheld sample system
- Large graphic display
- Compatible with MISP2 and M series aluminum oxide moisture probes

HygroPro^{II}

Intrinsically safe moisture transmitter for use in gas and liquid applications

The intrinsically-safe **HygroPro^{II}** moisture transmitter measures the moisture content of gases and non-aqueous liquids in pipelines, natural gas, petrochemical, power generation, pharmaceutical, process and industrial applications.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF_6 gas
Transformer oil

Refinery / Petrochemical
Hydrocarbon Liquids
Hydrogen recycle gas
Utility gas/Instrument air
Ethylene
Polyethylene plant feeds

Natural Gas
Natural gas pipelines
LNG, LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- Intrinsically safe
- Ambient to ppb moisture levels using aluminum oxide moisture sensor
- Built-in temperature and pressure sensors
- Gas and liquid applications
- HART communication

HygroPro XP

Explosionproof aluminum oxide moisture transmitter for gas and liquid applications

HygroPro XP measures moisture concentration in gases and non-aqueous liquids in natural gas, petrochemical, refinery, hydrogen, industrial gas, and power generation applications.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF_6 gas
Transformer oil

Refinery / Petrochemical
Hydrocarbon Liquids
Hydrogen recycle gas
Utility gas/Instrument air
Ethylene
Polyethylene plant feeds

Natural Gas
Natural gas pipelines
LNG, LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- Explosionproof
- Ambient to ppb moisture levels using aluminum oxide moisture sensor
- Built-in temperature and pressure sensors
- Gas and liquid applications
- HART communication

DewPro MMY30

Loop powered moisture transmitter for measurement in gases

The MMY30 is designed to measure dew point or ppm in gases at line or atmospheric pressure. An integral flow cell with filtration and flow regulation allows for easy implementation.

APPLICATIONS

Power Plant
H_2 (cooling generator)
Instrument Air lines
SF_6 gas

Refinery / Petrochemical
Utility gas / Instrument air

Natural Gas
Natural gas pipelines
LNG, LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Pharmaceutical
Utility air
Instrument calibration

Food & beverages
CO_2 gas

Hydrogen
Steam Methane Reformers
Electrolyzers
Pipeline & Storage

FEATURES

- Loop powered, 4-20mA transmitter
- Integral filtering and flow regulation
- Hazardous area configurations available

DewPro MMY31

Loop powered moisture transmitter for measurement in gases

The MMY31 is designed for inline installation in clean applications where trace moisture measurement is required and a bypass or extractive installation is not appropriate.

APPLICATIONS

Pharmaceutical
Utility air
Instrument calibration
Environmental chambers
Glove boxes

FEATURES

- Loop powered, 4-20mA transmitter
- Hazardous area configurations available

Moisture Analysis

Laser Technology

Panametrics Aurora analyzer uses tunable diode laser absorption spectroscopy (TDLAS) to rapidly and accurately measure moisture in a variety of background gases. The concentration of water is directly related to the partial pressure. At certain specific frequencies, light energy will be absorbed by water molecules. As the concentration of water increases, the absorption also increases. Aurora analyzers sweep the diode laser output through a narrow spectrum of light frequencies. Comparing the return light intensity with the incident light intensity, the analyzer provides a direct measure of the water vapor pressure in PPMv and related units. With the input of line pressure, the moisture content is expressed as pressure dew point.

Benefits:

- Very fast response, especially after process upset
- Long-term stability, negligible drift
- Non-contact based measurement, suitable for harsh applications

Aurora

Laser based moisture analyzer for gases

The Aurora uses tunable diode laser absorption spectroscopy (TDLAS) to quickly and accurately measure moisture in gases, with speed of light response and minimum maintenance requirements.

APPLICATIONS

Refinery / Petrochemical
Hydrogen recycle gas
Utility gas / Instrument air

Natural Gas
Natural gas dehydration
Natural gas pipelines and storage
LPGs, NGLs
Biogas upgrading

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling
CO_2

FEATURES

- Rated for installation directly in a hazardous area
- Optical response <2 seconds
- Integrated sample system for measurement integrity
- Patented temperature and pressure compensation
- Optional safe area 19" rack mount and portable configurations available

Moisture Analysis

Chilled Mirror Technology

Panametrics chilled mirror sensors use a thermoelectric cooling module to cool the mirror exposed to the flowing gas sample. Infrared light reflects off the mirror. The reflected light is received by a photodetector. As the mirror is cooled, and water vapor condenses on the mirror, the light received by the photodetector decreases due to absorption and scattering. The signal from the photodetector is utilized in a control loop to maintain a constant mass. A precision RTD measures the temperature of the mirror. This mirror temperature is by definition equal to the dew or frost point temperature..

Benefits:

- Direct fundamental measurement of dew / frost point
- High precision
- Long-term stability

Optica

Chilled mirror based hygrometer for high accuracy moisture measurements in gases

The Optica is a primary standard measurement device designed for industrial and laboratory applications requiring high precision without long term drift. It may be used with a number of chilled mirror sensors providing a wide measurement range.

APPLICATIONS

Steel Plant
Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases
Air Separation Units
Cylinder filling

Pharmaceutical
Utility air
Instrument calibration
Clean Room

Food & beverages
Utility air
Instrument calibration
Clean Room

Quality, Test & Calibration
Environmental test chambers
Engine test cells
Air conditioning and heat exchange coil testing
Metrology labs

FEATURES

- Measurements traceable to national standards
- 1/4 color VGA display
- Built-in data logger
- Multiple measurement units can be displayed and transmitted
- Patented PACER® cycle automatically cleans mirror to ensure measurement integrity

OptiSonde

Economical chilled mirror based hygrometer for high accuracy moisture measurements in gases

The OptiSonde is a primary standard device designed for process and laboratory measurements requiring high precision without long term drift. It may be used with a number of chilled mirror sensors providing a wide measurement range.

APPLICATIONS

Steel Plant

Annealing Lines
Galvanisation Lines
Utilities

Industrial Gases

Air Separation Units
Cylinder filling

Pharmaceutical

Utility air
Instrument calibration
Clean Room

Food & beverages

Utility air
Instrument calibration
Clean Room

Quality, Test & Calibration

Environmental test chambers
Engine test cells
Air conditioning and heat exchange coil testing
Metrology labs

FEATURES

- Measurements traceable to national standards
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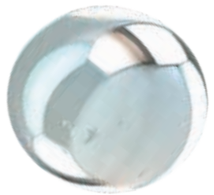
- Patented PACER® cycle automatically cleans mirror to ensure measurement integrity



Moisture Analysis

Polymer Capacitance Technology

Panametrics relative humidity transmitters use a proven polymer capacitive sensor to provide a humidity measurement in the range of 0 to 100% RH. The sensor consists of a hygroscopic polymer sensing layer whose dielectric properties change depending on the amount of water vapor in contact with the sensing surface. This causes a change in the capacitance of the sensor which is then converted into a relative humidity reading.

Benefits:

- Good resistance to chemical vapors
- Ability to function at high temperatures (>100 °C)
- Fast speed of response
- Ability to recover from condensation or full water immersion

MMR30

Loop powered mid-range moisture transmitter

The MMR30 is designed for mid-range (5°F to 185°F/-15°C to 85°C) moisture applications such as refrigerated compressed air dryers. It is compact and can be easily installed in indoor or outdoor environments.

APPLICATIONS

Power Plant
Gas Turbline inlet air

Pharmaceutical
Drying applications
Product Validation
Tablet coating
ETO Sterilisation

Food & beverages
Dehydration applications
Fruit Ripening
Coating

Quality, Test & Calibration
Weather Stations

FEATURES

- Loop powered 4-20mA transmitter
- Proven Polymer Capacitive sensor
- Integral filtering and flow regulation
- Optional integral display with user interface

MMR31

Loop powered mid-range moisture transmitter

The MMR31 is designed for relative humidity measurement (0-100%) applications. It is compact and can be easily installed in indoor or outdoor environments.

APPLICATIONS

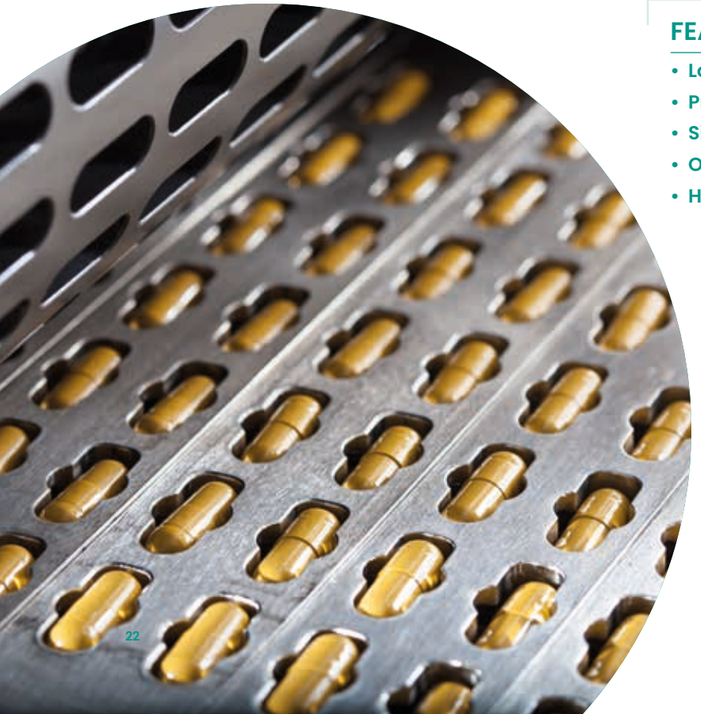
Pharmaceutical
Drying applications
Product Validation
Tablet coating
ETO Sterilisation

Food & beverages
Dehydration applications
Fruit Ripening
Coating

Quality, Test & Calibration
Humidity control
sterilization chambers

FEATURES

- Loop powered 4-20mA transmitter
- Proven Polymer Capacitive sensor
- Simple field recalibration with salt bottles
- Optional integral display with user interface
- Hazardous area options available



MMR101

Loop powered high temperature relative humidity transmitter

The MMR101 is designed for high temperature relative humidity (0-100%) applications. It's rugged design is suitable for the harshest installations.

APPLICATIONS

Steel Plant
Blast gas humidification

Pharmaceutical
High temperature
drying applications

Food & beverages
High temperature
drying applications

Quality, Test & Calibration
High temperature
drying applications

FEATURES

- Loop powered 4-20mA transmitter
- Proven Polymer Capacitive sensor
- Optional integral display with user interface
- Hazardous area options available
- Operating temperature up to 300°F (150°C)

Oxygen Analysis

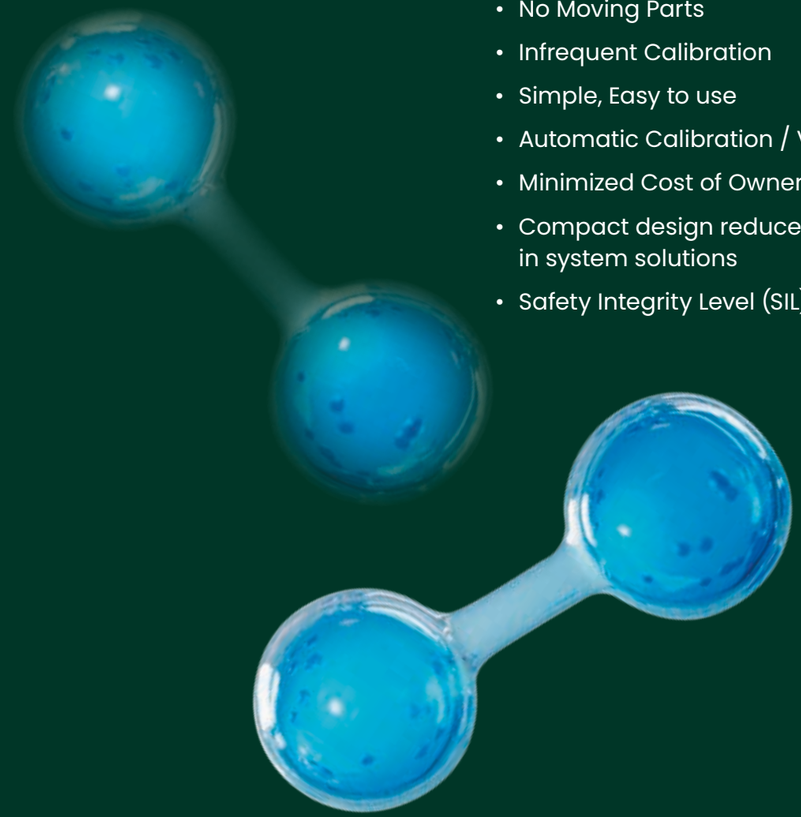
Thermoparamagnetic Technology

The XMO2pro represents the latest generation of paramagnetic analyzers for percent level oxygen measurements with SIL 2 option (Safety Integrity Level) solving many different tasks across different industries, from oil and gas to steel production, petrochemical, and renewable energy. It is one of the most stable oxygen analyzer available on the market today.

Thanks to the perfectly matched interaction between the paramagnetic oxygen property and temperature, the Safety Integrity Level (SIL) certified XMO2pro is contamination resistant, requires minimal maintenance and needs no consumables. This makes it the ultimate choice for highly accurate oxygen measurements for widespread use in harsh environment industrial and oil & gas applications.

Benefits:

- No Moving Parts
- Infrequent Calibration
- Simple, Easy to use
- Automatic Calibration / Verification
- Minimized Cost of Ownership
- Compact design reduces cost in system solutions
- Safety Integrity Level (SIL) certified



XMO2pro

Proven robustness in hazardous area oxygen analysis in gas applications

Designed for stability and longevity in hazardous area locations, the XMO2pro provides high accuracy percent-level measurements and easily recovers from process upsets.

APPLICATIONS

Refinery / Petrochemical
Inerting of Storage Tanks
Hydrocarbon Gas Supply
Hydrogen Recycle Gas
Ethylene/Polyethylene Plant

Natural Gas
Biogas Processing

Steel Plant
Heat treatment Processes

Industrial Gases
Percent Oxygen Analysis

Pharmaceutical
Storage Tanks for
Liquid Hydrocarbons
Centrifuges and Reactors
Ambient Atmosphere Monitoring
Carbon Reactivation
Reaction Optimization

Food & beverages
Inert Gas Packing
Prevention of Oxidation
of Dry Powders

Quality, Test & Calibration
Waste Water Treatment

FEATURES

- Background gas compensation
- Intuitive operator interface on a multiparameter display
- No moving parts assuring trouble-free operation
- Class 1 Div 1 / ATEX and IECEx zone 1 as standard

Oxygen Analysis

Electrochemical Technology

Panametrics' oxy.IQ utilizes galvanic fuel cell technology to measure trace and percent-level oxygen in gases. Oxygen in the gas flowing through the chamber reacts at the cathode to form ions that travel to the anode, converting from lead to lead oxide. The resultant current is proportional to the amount of oxygen. The oxy.IQ uses an advanced galvanic fuel cell, a self-contained cell that requires no electrolyte refueling or electrode replacement, providing superior performance, accuracy, stability and long life. The oxy.IQ is insensitive to background gas changes with drop-in sensors that cover different concentration ranges, with a special sensor option for acid gas compositions.

Benefits:

- Compact design allows installation flexibility
- Proven galvanic fuel cell technology
- Background gas insensitivity
- Acid gas sensor options

oxy.IQ

Highly reliable and cost effective oxygen measurement, all in a compact intrinsically safe package

Designed for installation flexibility, the oxy.IQ is a two wire loop powered transmitter with 17 percent- and ppm-level oxygen ranges. oxy.IQ combines proven sensor technology, an intuitive user interface, and a compact design in an intrinsically safe package perfect for oxygen measurement in a variety of background gases.

APPLICATIONS

Power Plant
Oxygen measurement H_2 cooled generators

Refinery / Petrochemical
Catalytic reformer for recycle hydrogen
Isomerization unit for recycle hydrogen
Butamer unit off-gas
Hydrotreater for recycle hydrogen
Fuel gas / off gas

Natural Gas
Natural gas pipelines
Biogas processing

Steel Plant
Heat treatment Processes

Industrial Gases
Nitrogen Generators
Oxygen Applications

Pharmaceutical
Glove Box Applications

Food & beverages
Inert Gas Packing
CO_2 Purity (Breweries)

Hydrogen
Water Electrolysis: traces of oxygen in hydrogen

FEATURES

- Compact and innovative design, easy installation and system solution flexibility
- Built-in microprocessor, intuitive user interface to easily select range, trim outputs and perform calibration
- User-selectable ranges, calibration, sensor diagnostics with keypad simplifies programming
- Maintenance-free device

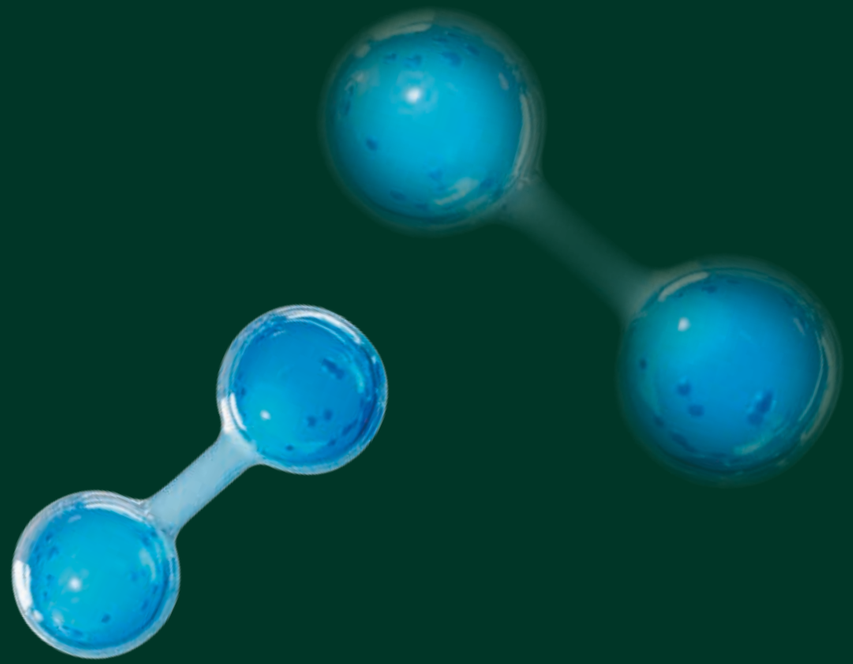
Oxygen Analysis

Non-depleting Electrochemical

Panametrics delivers Delta F oxygen sensor technology as a standard sensor input to the Panametrics flagship moisture.IQ analyzer. The oxygen from the sample takes part in a reaction. The voltage applied to the electrodes is the driving force. At the cathode, the oxygen is first converted into hydroxyl ions. These hydroxyl ions travel through the electrolyte to the anode where it is converted back to oxygen. The current is a direct measurement of the hydroxyl ion transport and therefore proportional to the oxygen concentration. Nothing is consumed in making the measurement.

Benefits:

- Non-depleting oxygen sensor
- Sensitivity down to a ppb-level oxygen
- Fast response to changes in oxygen concentration
- Short recovery time after exposure to high concentrations
- Ability to work in acid gases using Stab-El electrodes



Delta F

Delivering ultra-stable, trace oxygen analysis in industrial gas applications

The Delta F non-depleting, coulometric oxygen sensor provides ultra-stable oxygen measurement and requires only an annual span calibration. Combined with Panametrics' moisture.IQ, this offers a cost effective six-channel solution for multi-point oxygen measurement covering ppm and ppb measurements. The Delta F sensor is particularly suited to applications requiring high sensitivity measurements for process control.

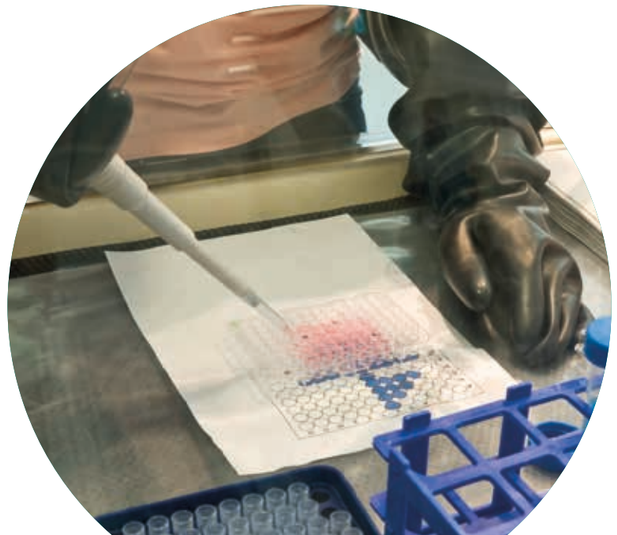
APPLICATIONS

Refinery / Petrochemical
Ethylene
Polyethylene plant feeds

Steel Plant
Heat treatment Processes

Industrial Gases
Air separation units (N_2 / Ar / O_2 / H_2)
Cylinder filling

Pharmaceutical
Glove Box Applications



FEATURES

- Ultra-stable coulometric measurement technology
- Non-depleting sensor
- Fast response times
- Unique combination with moisture.IQ offers up to 6-channels of moisture and oxygen
- Safe and hazardous area configurations

Multi-function Displays

Panametrics offers a suite of local displays / controllers that connect to the blind oxygen and binary gas transmitters providing power and local read-out. Additional features include alarm contacts, additional analog outputs, and auto-calibration functionality.

Benefits:

- Sensor installed at point of use
- Display installed where needed for visual indication
- Auto-calibration / verification capabilities
- Provides DC power to the transmitters when AC power is available

XDP

Offering added functionality to Panametrics transmitters, the XDP is more than just a fully certified explosionproof display

In addition to offering a local display, the auto-calibration and verification functionality of the XDP compliments the XMO2 and XMTC transmitters with even lower maintenance and calibration requirements, offering a full solution package. The advanced micro-processor control compares calibration readings with factory settings to verify calibration. Corrections are automatic with user notification.

FEATURES

- Full solution enabler to compliment the XMO2, XMTC and oxy.IQ with added functionality
- 4 relay output for solenoid control
- Very low maintenance requirement and reduced touch time of other transmitters
- Class 1 Div 1 / ATEX and IECEx zone 1 as standard
- Calibration Curve Management

COMPATIBLE WITH

XMO2

XMTC

oxy.IQ

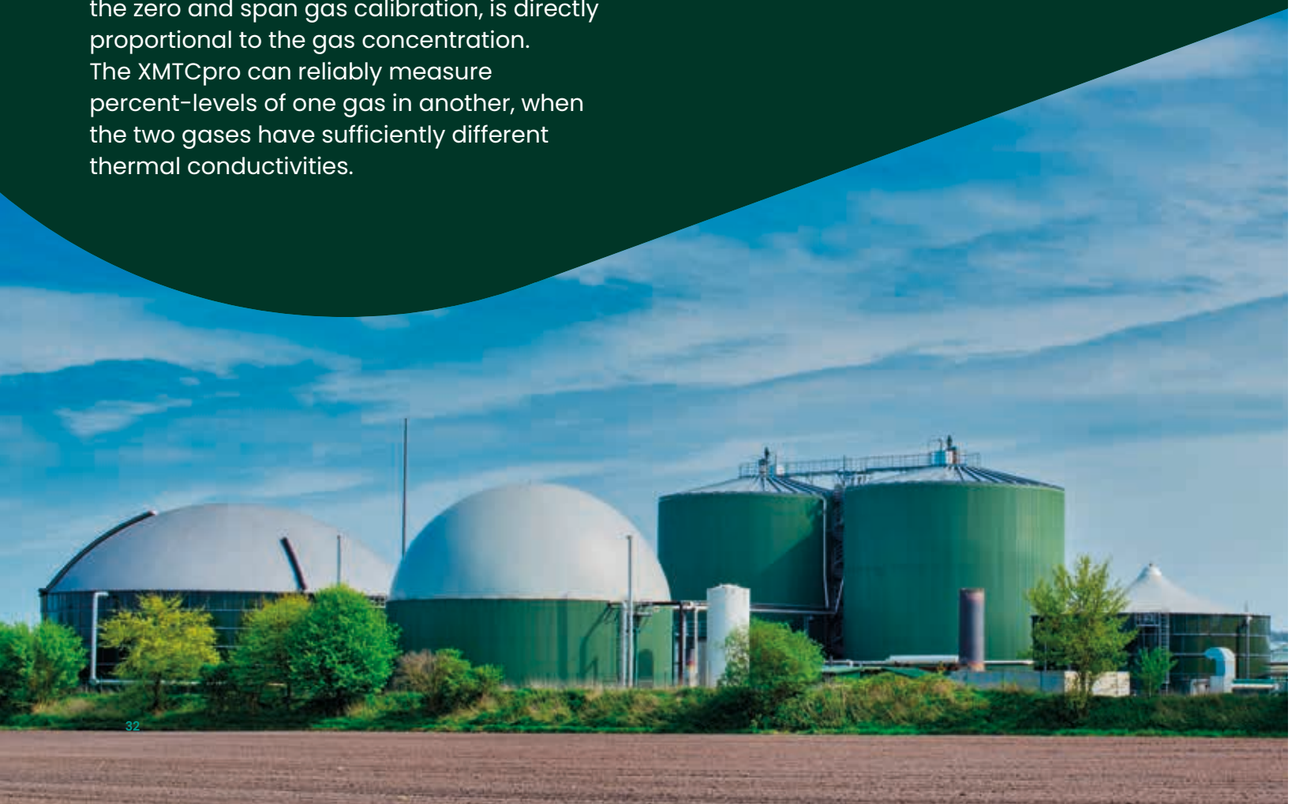
Gas Analysis

Thermal Conductivity Technology

Thermal conductivity is a physical property, a fluid's ability to dissipate heat. This property is useful in measuring concentrations in binary gas mixtures such as oxygen in hydrogen, carbon dioxide in methane, etc. Panametrics' XMTCpro compares the thermal conductivity of the sample gas to that of a reference gas to determine the percent-level concentration of one gas in a two-gas mixture or multi-gas mixture of gases with similar thermal conductivities. The sample gas flows through the measuring cell with built-in thermistors. The thermal conductivity difference between the sample and reference, when compared to the zero and span gas calibration, is directly proportional to the gas concentration. The XMTCpro can reliably measure percent-levels of one gas in another, when the two gases have sufficiently different thermal conductivities.

Benefits:

- Compact, rugged, no moving parts
- Enhanced signal measurement
- Real-time error detection
- Digital communication
- Flexible calibration, various gas combinations
- Minimal calibration and service
- High level of reliability with SIL 2 by design



XMTCpro

High accuracy analysis in a compact binary gas analyzer

With Safety Integrity Level 2 (SIL2) by design and digital MODBUS communication, the XMTCpro offers a high level of reliability for process and product critical gas measurements. The XMTCpro has an integrated high contrast, easy-to-read display and is operated via magnetic buttons, making it easy to use in all conditions. Weighing only 4.5 kg/9.9 lbs in the aluminum version, it is the lightest and smallest explosion-proof thermal conductivity analyzer.

APPLICATIONS

Power Plant
Hydrogen-Cooled Generators

Refinery / Petrochemical
Catalytic Reformer for Recycle Hydrogen
Isomerization Unit for Recycle Hydrogen
Butamer Unit Off-Gas
Hydrotreater for Recycle Hydrogen
Fuel Gas/Exhaust Gas

Natural Gas
Biogas processing

Steel Plant
Heat treatment Processes

Industrial Gases
Air separation units (N_2 / Ar / O_2 / H_2)
Cylinder filling

Food & beverages
CO_2-purity (Breweries)

Hydrogen
Water Electrolysis: Hydrogen and Oxygen Analysis

SIL2
IEC 61508 certified

FEATURES

- One-button field calibration
- Ultra stable thermistors
- Temperature compensation for reduced temperature effect
- Compact sensor Assembly
- Class 1 Div 1, ATEX and IECEx Zone 1, IP66/4X

TMO2D

Added functionality in a cost effective package, this safe area display compliments the Panametrics analyzers with increased functionality and control

The TMO2D offers auto-calibration and verification control to support the XMO2, XMTC and oxy.IQ analyzers. This package comes in user selectable form factors which offers reduced maintenance and alarm outputs.

FEATURES

- Single or dual isolated 4-20mA outputs
- Up to four field-configurable process alarms
- Automatic calibration relays for autocalibration of XMO2 and XMTC
- Calibration Curve Management

COMPATIBLE WITH

XMO2

XMTC

oxy.IQ

Sample Conditioning Systems

Save money and time with the right sample system from the application experts

Sample handling systems are essential for getting top performance from your process analyzer systems. To get the right sample system for your application, turn to Panametrics, the analyzer application expert with more than 50 years of design experience. Couple Panametrics process analyzers with the appropriate Panametrics sample handling and you will have reliable, accurate, and low maintenance measurements.

Features and benefits:

Panametrics sample systems ensure the performance of an analyzer by supplying a sample to the analyzer at optimal pressure, temperature, flow rate, and free from contaminants. Designed specifically to meet the needs of your Panametrics analyzers, Panametrics sample systems reduce cost and downtime by:

- Providing better measurement accuracy and reliability
- Extending analyzer life
- Minimizing analyzer maintenance and associated parts and labor
- Facilitating field calibration

Application engineering is the difference

Our application and service engineering teams possess the expertise to provide a comprehensive sample system designed and built for your specific situation. We know how our analyzers perform in your applications and how our sample handling systems can help deliver the best measurements. We offer a cost-effective source for complete analyzer packages.

- **Standard systems for common applications**
- **Engineered systems for customer-specific requirements**
- **Design, construction, and inspection of all systems**
- **Installation guidance**
- **Start-up and commissioning**
- **Calibration**
- **Extended warranties and service plans for analyzer systems**

Panametrics, a Baker Hughes business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement. Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

Join the conversation and follow us on LinkedIn
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Panametrics
a Baker Hughes business

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