



Environmental Measurement Solutions

Continuous Emissions Monitoring Systems (CEMS)
Green House Gas (GHG) Monitoring
 H_2S /Total Sulfur Analysis

BU 10A02A02-01E-A

www.yokogawa.com/us/ia/analytical/measurementation/home.htm

Mandated Compliance Monitoring

Since the 1970's, the Environmental Protection Agency (EPA) has been establishing and enforcing environmental protection standards in the United States. An important part of these standards is the mandated monitoring requirements to verify the standards are being met; especially for emissions into the atmosphere. So for many industrial plants, Continuous Emission Monitoring Systems (CEMS) are a key component of a plant's compliance responsibilities.

In addition to federal mandates, state and local environmental regulations may exist that cover a number of emissions ranging from the measurement of Highly Reactive Volatile Organic Compounds (HRVOCs) to the monitoring of sulfur emissions. To assist plants in meeting these diverse mandated measurements, Yokogawa Corporation has the expertise to customize analytical measurement solutions for nearly any requirement.



CEMS Cabinet

Customized Solutions for Environmental Measurements

The Measurement division of Yokogawa has been providing on-line analytical measurement solutions for over 40 years to the process industries. Decades of experience in complete system design make Measurement the perfect one-stop solution provider for all of your on-line analytical measurement needs.

Services available from Measurement cover the entire spectrum of analytical system design, equipment selection, and system manufacture. And with extensive experience in the analytical products from other manufacturers, each system can be tailored with the optimum selection of equipment to provide the most cost-effective solution.

Products and services available from Measurement include:

- Field audits of installation site
- Selection of analyzer types to perform the measurements
- Complete sample system and automated calibration design
- Packaging of the analyzer system in cabinets or shelters
- Data acquisition systems to automatically gather and report the data needed for both federal and state agencies



MEASUREMENT

any**Process**
any**Analyzer**
any**Where**

Experience With A Range Of Environmental Applications

Proper design of on-line analysis systems for environmental compliance is critical for providing the mandated data as well as minimizing long-term operational costs. With decades of experience in analytical systems design, Measurementation is the ideal partner for assisting your plant in meeting these requirements.

Continuous Emissions Monitoring Systems (CEMS)

Reliable and cost effective CEM systems are available to measure a wide range of components. Depending on the site requirements, the CEM system can measure, NO_x , SO_2 , CO_2 , CO , CH_4 , HCl or O_2 in the sample gas. Whether the application is a basic stack gas analysis or a harsh application like industrial incinerators, designs are available to meet the mandated measurements.

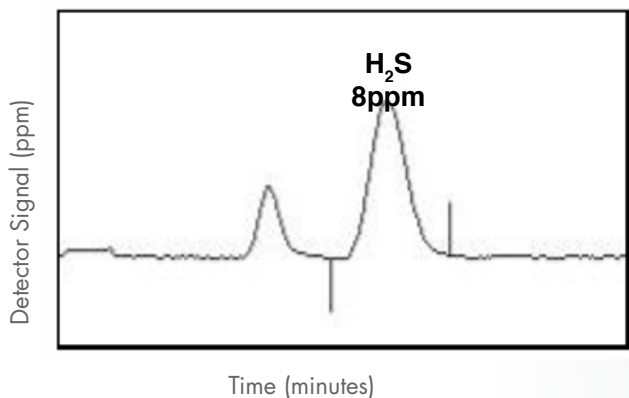
Green House Gas (GHG) Monitoring

Recent federal regulations have increased the need to monitor and report the CO_2 equivalent for over 10,000 industrial sources in the United States. But whether the measurement is CO_2 itself or one of the other mandated compounds, analysis and reporting requirements are new to a number of locations. The expertise of Measurementation allows us to provide the solutions to assist your facility in meeting these new requirements.

H_2S / Total Sulfur Analysis

With the recent passage of the 40 CFR 60 subpart Ja regulations, the need for monitoring for H_2S in Flare Gas has increased. This is in addition to past requirements for H_2S in other process streams such as Refinery Fuel Gas. Furthermore, the need for measurement of Total Sulfur is also increasing for many sites. For these applications, Measurementation is well suited to provide complete measurement solutions that are both cost effective and designed with low long-term maintenance requirements.

The ultra-sensitive thermal conductivity detector used on the Yokogawa GC1000 Mark II or GC8000 provides the sensitivity needed for the H_2S measurement while avoiding the higher costs and higher maintenance associated with a flame photometric detector.



Comprehensive Field Service Capabilities

The delivery of the analytical system is only the beginning of our commitment to you for the analytical products we offer. Professional installation, start-up and commissioning as well as training on the proper operation and maintenance of the analyzers are available to ensure the long-term reliable performance of your analytical system. Yokogawa Corporation has the experience and resources to work with you during all phases of the field installation and commissioning. One important feature of the Yokogawa Analytical service team is we have the knowledge and expertise to provide service and maintenance on nearly any type of manufactured process analyzer on the market.

Examples of environmental analyzer support services available include:

- Field supervision of analyzer system installation
- Start-up and commissioning
- Coordination of the Relative Accuracy Test certification
- Training on the complete system
- Priority on-call technical support service
- Remote monitoring and diagnostics services
- Annual service maintenance contracts



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The clear path to operational excellence

SEE
CLEARLY

KNOW
IN ADVANCE

ACT
WITH AGILITY

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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