

Gas Analyzers

With a wide selection of sensors, analyzers, gas chromatographs, and other measurement and analysis technologies, Rosemount Analytical helps customers streamline process performance with innovative improvements that increase throughput, minimize energy usage, maximize asset life, and take advantage of continuous online diagnostics for amazing results.

951C Chemiluminescence Analyzer

Course 2102

Overview

This 1-day course uses lectures and hands-on service training to instruct the student on how to install and maintain the Rosemount Analytical Model 951C Chemiluminescence Analyzer. Students will:

- identify subassemblies and explain their functionality
- explain the principles of operation
- calibrate and test
- properly install and troubleshoot

Topics

- 951C Overview and Principles of Operation
- Test Equipment Selection
- Bench Testing the 951C
- Calibrating the 951C Chemiluminescence Analyzer
- Installation and Start-Up
- Troubleshooting and Maintenance

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

Continuous Emissions Monitoring Systems (CEMS)

Course 2157

This course is for instrument technicians responsible for the maintenance of continuous emissions monitoring systems.

Overview

This 3-day course covers basic fundamentals and the theory of operation, installation, calibration and maintenance of continuous emissions monitoring systems.

Topics

- Environmental Requirement
- Process Applications
- Theory of Operation
- Sample System Instrument
 - Installation and Troubleshooting
 - Hardware and Maintenance

Price \$2,850 per day plus travel and lodging (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

NGA 2000 Process Gas Analyzers

Course 2107

Overview This 5-day course consists of 1-day per selected analyzer:

- NGA Platform • NGA FID
- NGA CLD • NGA HFID
- NGA WCLD

Lectures and hands-on service training are provided on how to install, maintain, and troubleshoot the NGA series of analyzers. Students who complete this course will:

- identify individual modules and their functionality
- understand the basic theory of operation of each module
- set up software variables for proper calibration and operation
- understand and properly use software diagnostics

Topics

- NGA Overview
- NGA as a System
- NGA Testing
- NGA Start-Up and Installation

Price \$2,850 per day plus travel and lodging (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

400A Hydrocarbon Analyzer

Course 2103

Overview This 1-day course uses lectures and hands-on service training to instruct the student how to install and maintain the Rosemount Analytical Model 400A Hydrocarbon Analyzer. Students will:

- identify subassemblies/explain functionality
- explain the principles of operation
- calibrate and test
- properly install and troubleshoot

Topics

- 400A Overview and Principles of Operation
- Test Equipment Selection
- Bench Testing the 400A
- Calibrating the 400A Hydrocarbon Analyzer
- Installation and Start-Up
- Troubleshooting and Maintenance

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

MLT Process Gas Analyzers

Course 2110

Overview

This 3-day course uses lectures and hands-on service training to provide instruction on MLT analyzers, platforms, and other menu structures. The course will teach the student on how to install, maintain, and troubleshoot the MLT series of analyzers. Application and selection will be briefly covered including the hazardous area requirements. Students will:

- identify modules and their functionality
- understand the basic theory of operation
- set up software variables for proper calibration and operation
- use the software diagnostics to troubleshoot problems

Topics

- Overview of MLT
- Theory of Operation
- Installation
- Configuration and Calibration
- Maintenance and Troubleshooting

Price \$2,850 per day plus travel and lodging (up to 7 students)

Location **Start Dates 2012**
Solon, OH 1/26, 5/25, 7/16, 11/9

BINOS/OXYNOS/HYDROS Analyzers

Course 2113

Overview

This 3-day course familiarizes the student with the non-dispersive infrared, electrochemical oxygen, paramagnetic oxygen, and thermal conductivity measurement techniques used in the BINOS, OXYNOS, and HYDROS gas analyzers. Maintenance and troubleshooting are covered in detail. Typical applications and start-up procedures are also discussed.

Topics

- Objectives
- Theory
- Installation
- Troubleshooting
- Maintenance

Price \$2,850 per day plus travel and lodging (up to 7 students)

Location **Start Dates 2012**
Offered on Request at Customer Site

To enroll in Rosemount Analytical courses please call 713-827-6310. For additional contact information refer to the appropriate contact on page 107. Updated dates & locations are available on our website at www.emersonprocess.com/education.

Oxygen Flue Gas Analyzer Maintenance including Oxymitter, and World Class 3000

Course 2153

Overview

This 1-day course covers the service requirements for oxygen analyzers in general and the installation, operation, calibration and maintenance of the World Class and Oxymitter.

Topics

- Combustion Requirements
- Methods of Oxygen Analysis
- Typical Uses of Oxygen Analysis
- Combustion Efficiency
- Zirconia (Z₂O₂) Oxygen Analysis
- Theory of Operation
- Oxygen Analyzer: Installation; Hardware; Maintenance; Troubleshooting; Hart Communications

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Offered on Request at Customer Site

X-STREAM Process Gas Analyzers

Course 2170

Overview

This 3-day course uses lectures and hands-on training to teach the student the non-dispersive infrared, electrochemical, or paramagnetic oxygen and thermal conductivity measurement techniques used in the analyzer. Applications will be reviewed including the various housings to meet the environmental needs. The student will:

- learn the theory of operation
- set up software variables for proper calibration and installation
- understand and use the troubleshooting tools including diagnostics

Topics

- Overview and Theory
- Application and Selection of Options
- Installation and Troubleshooting
- Maintenance and Calibration

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Solon, OH 4/26, 10/25

Also Available on Request at Customer Site

OPM 3000/4000 - Opacity Monitor Maintenance

Course 2169

Overview This 2-day course is a combination of labs and lectures and hands-on service training combined with the objective of teaching the theory and operation of the opacity monitor. Product application will be reviewed. Correct selection of equipment, installation, and start up are critical and will be covered in detail. Operational diagnostics and maintenance are explored with the goal of allowing the student to recognize and correct any issues promptly. EPA certification and quarterly audits will be discussed, but in depth planning will be site-specific.

Topics

- Overview of the Opacity Monitor
- Theory of Operation
- Installation and Start Up
- Troubleshooting and Maintenance
- Audit and Reporting Requirements

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

CCO 5500 CO Analyzer Maintenance

Course 2168

Overview This 1-day course covers the theory, application and operation of the CCO5500. Infrared absorption spectroscopy is defined and explained as a measurement technique. Focusing on applications, the instrument is reviewed and the students are taught to install and maintain the analyzer. Students will:

- understand the basic theory of operation
- learn to install and start up the analyzer including calibration
- use the software diagnostics to troubleshoot problems

Topics

- Overview of the CCO 5500, Carbon Monoxide Analyzer
- Theory of Operation, Appropriate Applications
- Installation, Configuration, and Calibration
- Troubleshooting and Maintenance

Price \$2,850 per day (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site

Online Safety Training for Process Gas Analyzers

Course 2171

Overview

This fully customized 5-day course provides students with a strong understanding of gas analyzer best practices as they relate to the safe operation and maintenance of the specific model(s) of Rosemount Analytical gas analyzers found in their plants, including the NGA2000, MLT, Binos, CLD, X-STREAM, and X-STREAM XE. The instructor focuses on the specific analyzers that are applicable to the students' specific needs. This course emphasizes safe handling of Rosemount Analytical analyzers. All necessary equipment and important handouts will be provided.

Topics

- Analyzer Overview, Including Hardware and Construction
- Software Functionality
- Physical Principals of IR and UV Photometric Measurements and Oxygen Paramagnetic Measurements
- Overview of the Electronics
- Replacement of Physical Components
- Testing and Troubleshooting
- Spare Parts
- Mechanical Assembly/Disassembly
- Sample Handling System – Method, Theory, and Troubleshooting
- Site-specific Applications
- Theory of Operation
- Installation and Start Up
- Troubleshooting and Maintenance
- Audit and Reporting Requirements

Price \$2,850 per day plus travel and lodging (up to 7 students)

Location **Start Dates 2012**
Available on Request in Houston, TX, Solon, OH, or at Customer Site