SIEMENS

Process Analyzers

Introduction to Process Gas Chromatography

General Information

Course Code: PIA-PAOPTIA1
Length: 3 Days

Audience

This class is intended for individuals who need a basic understanding of process gas chromatography. The course will provide the student with the practical knowledge in process gas chromatography necessary for the operation of Siemens Process Gas Chromatographs, taught in later courses.

Profile

2.0 CEUs (Continuing Education Credits)

This course introduces the student to chromatographic technology and theory as well as to the hardware associated with process gas chromatography. It can be taught at the customer site and customized to meet the customers' needs. With advance notice, customer specific applications can be taught.

Objectives

Upon completion of this course, the student shall be able to:

- Identify the modules in a Process Gas Chromatograph
- Repair a Model 11 and Model 50 valve
- Troubleshoot general problems in a Process Gas Chromatograph
- Adjust a column valve time based on a chromatograms and oven plumbing diagrams.
- Adjust peak windows to integrate the correct peaks.
- Setup a Sample System using the custom documentation for a given system.

Note: Students will need training on the specific model of Gas Chromatograph to be able to enter the times in the software.

Topics

1. Chromatographic Principles
2. Chromatograph Column Theory
3. Sample injection and Column switching Valves; Plunger, rotor, quill
4. Detectors; TCD, FID, FPD
5. Component attenuation, integration and calibration
6. Analytical Techniques; Backflush, Parallel, Trap / Bypass, Reverse Column Step, and Heartcut
7. Sample Systems
   a. Probes
   b. Speed Loops
   c. Stream Switching
   d. Vapor Systems
   e. Liquid Systems
   f. Liquid Vaporizing

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