NA400 Vista II Gas Chromatograph Training

Course Description



Course Duration

The duration is 4 days.

Course Goal

The goal of this course is to teach students a practical working knowledge and understanding of the ABB Inc. Vista II chromatographic analyzer.

Student Profile

This training is targeted to instrument / analyzer technicians, operators, or engineers responsible for Vista II chromatographic analyzer installation, operation, maintenance and repair.

Prerequisites and Recommendations

Students should have completed the ABB Inc. Process Gas Chromatography Technology, Vista 3000 series, or six months prior experience with process gas chromatographs

Description

In this course, students will learn about:

Basic Chromatographic System Overview:

- Sample Transport and Delivery
- Chromatographic Analysis: Injection, Separation, Detection, Integration
- Data Output and Reporting

Chromatographic Controller:

- Location, Function, Operation: Front Panel, Detector Electronics, Solenoid Driver Board, Electronics Power Supply, Chroma I/O Board, Single Board Computer, Digital Temperature Controller Back Plane and Zone Boards, Electronic Pressure Control Board
- Motherboard AC Power Distribution: Interconnections, Power Transformer, RFI Filter, UPS Electronic Option, Fuses
- Motherboard DC Power Distribution: Interconnections
- Controller Communication Connections Between Motherboard, Controller Boards and External Devices
- Motherboard Jumper Setup
- End User Electrical DC Signal Connections: Digital Input, Digital Output, Trend (AO), Analog Input, Recorder Output
- End User Electronic Communication Connections: Printer Output, Data Highway, VistaNET



Chromatographic Oven Compartment: Location, Function, Operation

- Isothermal Oven Overview: Heater, Column, Valve, Restrictor, Flow Controller, Splitter, Detectors
- Regulator Panel and Electronic Pressure Control
- Sample Injection and Analytical Valves: Model 791 LSV, Model M2CP Valve
- Detectors: 733/798 Thermal Conductivity, 799 Flame Ionization Detector
- Air Cleanup/Methanizer

Analytical Valve Configuration Flow Adjustments:

- Backflush to Vent, Backflush to Detector, Heart Cut, Trap Bypass

Detector Flow Adjustments:

- Thermal Conductivity, Flame Ionization, Flame Photometric, Photo Ionization

Chromatographic Controller Purge Systems:

- Y, Z and X Purge Functional and Operational Description
- Pressure Switch Location, Function and Operation

Basic Operator Skills

- Balancing The Detector: Thermal Conductivity, Flame Ionization, Flame Photometric, Photo Ionization
- Requesting Analysis: Start Process, Calibration, Benchmark Analysis, and Stop Analysis
- Manual Valve Operation: Specific Valve On and Valve Off
- Chromatogram Graphic Display On LCD: Graphic Display, Baseline Off Set, Speed, Range
- Igniting Flame Detector: Flame Ionization, Flame Photometric
- Time and Date: Setting
- Printer Functions: Hardware Set-up and Test, Printing Analyzer Control Tables
- Analysis Reports: Header Name, Selecting Report Type, Viewing Current, Last, Cal, Benchmark Report From LCD
- Recorder Output: Changing Offset and Attenuation, Graph Chromatogram, Bar Graph, Graph Trend
- Zeroing The Baseline
- Stream Select and Purge: Manual Operation
- Temperature Zones: Manually Changing Temperature Setpoint and Ramp Rate

NA400 Vista II Gas Chromatograph Training

Course Description



- Pressure Zones: Manually Changing Pressure Setpoint and Ramp Rate
- Saving or Restoring Tables: To and From E2PROM
- Diagnostics Tests: ROM Check Sum Test, Chroma Board Test
- Diagnostic Tools: Digital Output Test, Trend Output Test (Manual Output Determination)

Method Tables:

- Analysis and Calibration Stream Method Table Programming

Control Tables:

- Temperature Control Table: Setting Zone Setpoint and Ramp Rates
- Temperature Configuration Table: Zone Assignment, Setting Hi/Lo Temperature Alarm Limits
- Temperature Check Table: Zone Temperature Limit and Corresponding Action
- Pressure Control Table: Setting Zone Setpoint and Ramp Rates
- Pressure Configuration Table: Zone Assignment, Setting Hi/Lo Pressure Alarm Limits
- Pressure Check Table: Zone Pressure Limit and Corresponding Action
- Stream Assignment: Active/Inactive, Stream/Method Assignment, Stream/Vista Basic Assignment
- Trend Assignment: Channel, Stream, Component, Setting Low Level (Zero) and High Level (Span)
- Digital Alarm Output Assignment: Channel, Stream, Component, Setting Low Level and High Level
- Digital Input Table: Configuration Assignment For All Digital Inputs
- Digital Output Table: Configuration Assignment For All Digital Outputs

Understanding The Application Data Sheets (Important Papers):

- Sensors, Valves, Sample Size, Gas Pressures and Flow Rates, Temperature Values, Measured Components
- Columns, Oven Layout, Solenoid Assignment and Function, Method and Control Tables, Flow Diagram
- How to Order Spare Parts