Vista II

Model 2000 Process Gas Chromatograph

ABB Analytical
ABB Process Analytics

A better gas chromatograph...built on a foundation of leadership

ABB Process Analytics manufactured and sold the first on-line process gas chromatograph in 1957. In the decades since, ABB Process Analytics has continually advanced its process GC technology leadership. Now, ABB Process Analytics leads the way into the 21st Century with the **Vista II Model 2000** series of Process Gas Chromatographs.

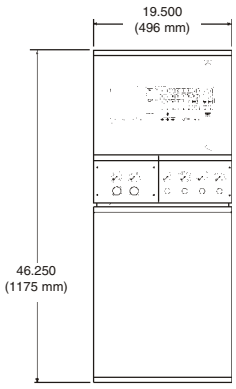
The Model 2000 is the second generation of Vista on-line Process GC's. ABB Process Analytics' Vista II Analyzers have set a new standard for ease of use, quality and reliability. The Model 2000 also raises process GC technical standards, with more compact size, improved serviceability, superior connectivity and digital analytical control.

A More Compact Design for Greater Space Savings

The Model 2000 has a significantly smaller foot print than competitive designs. The Model 2000 is only 19.5 inches (496 mm) wide. All tubing and wiring connections are on the right side. There are no components, tubing or wiring on the left side. That saves even more space in installation. Analyzer to analyzer spacing has been reduced by over 19 inches (482 mm), significantly reducing the required shelter space for multi-analyzer systems.

Vista Model 2000
(Vista Model 3100 Dimensions Shown With Shading)

Vista II Model 2000



Recommended Spacing
37 inches (0.94 M)

Improved Serviceability

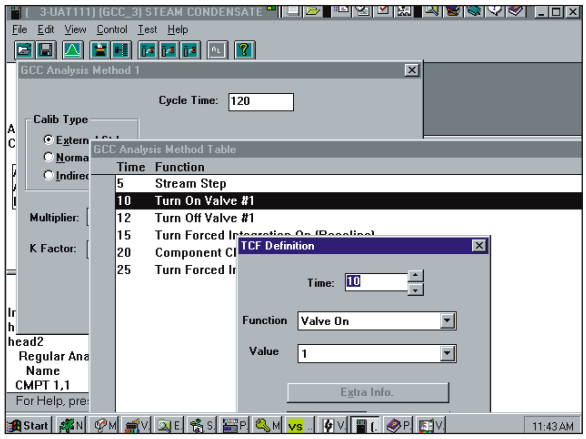
The Model 2000 uses an integrated backplane which eliminates wiring harnesses and terminal strips. All sub-systems such as temperature controllers, detector amplifiers, sensors, and options are assigned specific, clearly labeled plug locations. This self-documenting concept greatly improves serviceability and upgradeability. It also improves quality and reliability by eliminating loose wiring connections and allowing components and modules to be tested before system installation.

Superior Connectivity

The Model 2000 can function as a stand alone analyzer or be integrated into a small, medium or large analyzer network. Analyzer networking is achieved through VistaNET, ABB Process Analytics' own Analyzer Local Area Network Architecture. VistaNET supports data interchange from Gas Chromatographs or other analyzers, to the Distributed Control System (DCS), in a dedicated and secured manner. VistaNET provides analyzer maintenance personnel a Windows™ Graphical User Interface (GUI) for each analyzer. This GUI enables remote monitoring and editing of all analyzer functions.

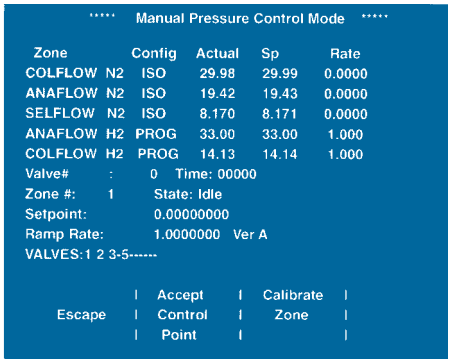
VistaNET uses industry standard network protocols. This allows data consumers, such as analyzer technicians, engineers, control room personnel, maintenance and lab personnel, to access and control any Model 2000 connected to the VistaNET, from any PC connected to the plant-wide LAN or WAN.

Modem capability allows secure remote access for maintenance personnel and ABB Process Analytics service experts, if the customer desires. Security is maintained with built-in multilevel controls that may be configured to each plant's needs.



Digital Analytical Control Functions

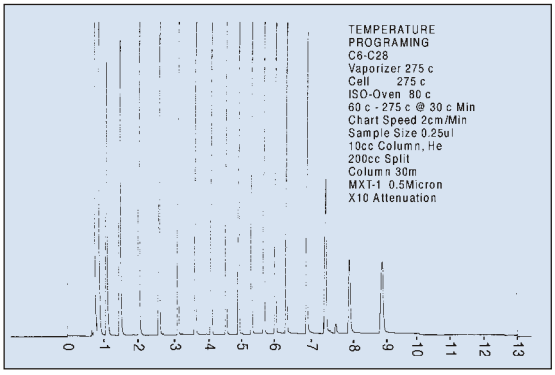
The Model 2000 offers digital, electronic **Temperature and Pressure Control**. Digital temperature control is a standard feature. Digital pressure control is optional. With digital controls, temperature and pressure can be set directly at the analyzer keypad or remotely via VistaNET. Digital control reproduces temperature and pressure settings far more precisely than analog temperature controls or mechanical pressure regulators.

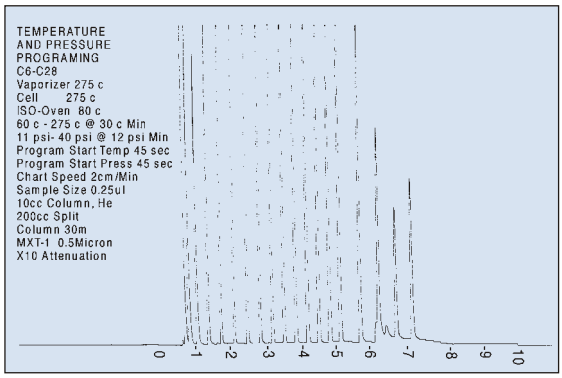


Optional Electronic Pressure Control

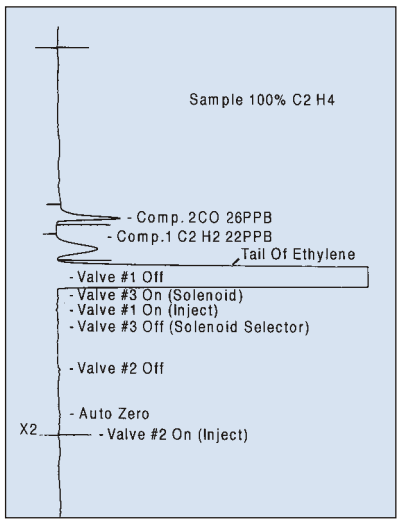
Electronic pressure control improves chromatography by providing better resolution, exceptional retention time stability, and faster analysis time. Ambient temperature, carrier supply, and barometric pressure effects are reduced, greatly improving analyzer stability. Analytical flows can vary for different methods within the same analyzer, enabling a wider range of on-line and at-line applications. Carrier gas consumption can be minimized by turning carrier flow off when not needed and by reducing or eliminating split flows and flows to vent during portions of the analysis. In some cases, analytical valving can be reduced by switching flows without valves.

EPC Improves Cycle Times

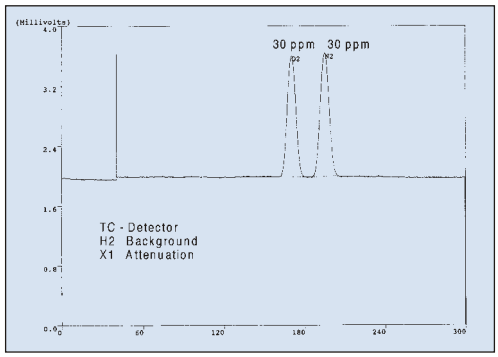




EPC Reduces Analytical Valving By Pressure Switching



EPC Improves Stability – Prevents Interference From Valve Transients



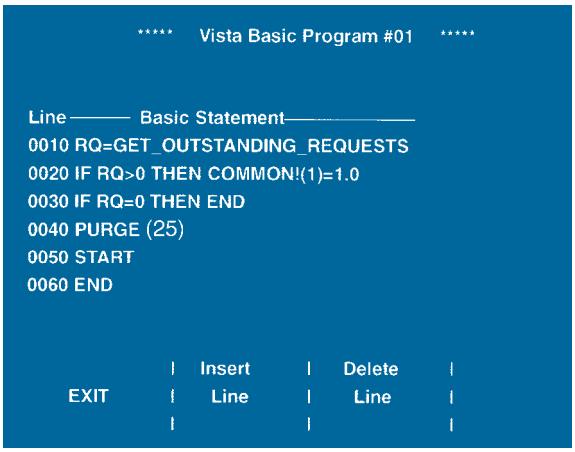
Ease of Operation

The Vista II Model 2000 offers a fast learning curve with minimal training. Analyzers can be placed on-line and kept on-line with a minimum amount of time spent learning the programming. The Model 2000's menu driven interface, front panel keypad and 5.6 inch (142 mm) diagonal graphics display, allow users to easily change, modify or edit all analysis parameters. All front panel functions are also available at any network PC, via VistaNET. This allows operating personnel to concentrate on the analytical aspects of the application instead of electronic/programming concerns.

A World Class Analyzer Meets World Standards

The Model 2000 Series is designed from the ground up to meet current and emerging international standards such as CE/CENELEC, CSA, and NEC. ABB Process Analytics has extensive facilities for testing to the European Community's Electromagnetic Compatibility (EMC) Directives and safety criteria. In most cases, the standard configuration meets all required international standards, minimizing analyzer variants and assuring consistent performance and safety.

Real-Time VistaBASIC



Flexibility and integration are critical to a process chromatograph. Our VistaBASIC language provides additional flexibility in meeting customer application requirements. Real-time VistaBASIC allows the chromatograph controller to be used in a supervisory capacity to monitor sample systems and interface with other devices in more complex remote-controlled systems.

Real-time VistaBASIC virtually eliminates the need for PLC's in complex discrete sampling systems. VistaBASIC provides inter-analyzer communications, where measurement values from one analyzer are used in calculations on another, via VistaNET.

While VistaBASIC can be used for these more sophisticated analyzer solutions, BASIC programming skills are not required for typical analyzer applications. VistaBASIC provides the tools for custom extensions to the chromatograph controller's capabilities and provides full access to the extensive I/O of the Vista controller.

Specialized Vista II Series Models

In addition to the standard Model 2000, the Vista II Series offers several specialty process gas chromatographs:

- **Model 2001 - Process Supercritical Fluid Chromatograph**
- **Model 2002 - Process Distillation Analyzer**
- **Model 2003/2004 - PNA/PINA Analyzer**
- **Model 2005 - Temperature Programmed GC**
- **Model 2007 - Fuel Sulfur Analyzer**
- **Model 2008 - Olefins Analyzer**

Analytical Oven

- More efficient oven layout
- Valves oriented for easy access
- PFA Teflon replaces S.S. tubing for air lines
- Model 791 Liquid Injection Valve
- Model 799 Flame Ionization Detector

The Model 791 Liquid Sample Valve

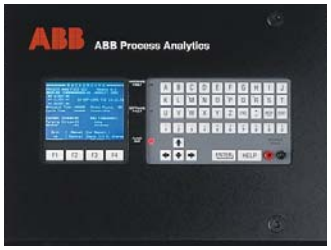
The field proven, Model 791 Liquid Sample Valve with wear compensating seals, yields longer life.

The Model 799 Flame Ionization Detector

The smaller Model 799 Flame Ionization Detector provides 5 times the sensitivity, compared to the previous Flame Ionization Detector.

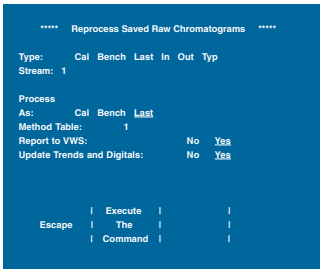
Technical and Performance Features

The Vista II 2000 series of Process Gas Chromatographs offer a broad range of features. Some of these are outlined here.



The Model 2000 Controller Front Panel Keyboard / LCD

- 5.6 inch (142 mm) diagonal LCD graphic user interface
- 320 x 240 dot monochrome (white on blue screen)
- 50 key touch pad
- plain language menus



Chromatogram Storage

- Analysis may be saved on calibration, benchmark, typical, alarm, last analysis and current analysis.
- Up to one hour of chromatograph storage is available.
- The controller monitors the amount of memory available for the storage of raw data and takes appropriate action when the saved analysis would exceed the limit.
- The user can save raw chromatograms manually or automatically.
- The operator can view the chromatogram at the 2000 controller or on a PC connected to the VistaNET.
- The chromatogram can be reprocessed as if it were being taken from the detector.

Digital Temperature Controller

- Allows full visibility of all analyzer temperatures and settings.
- Up to five independently controlled heated zones.
- Temperature setpoints may be varied as dictated by the analytical methods.
- Zones can control external sample system heaters at user's option.
- Reproduces temperature settings more precisely than analog temperature controller.

System Maintenance

- Written alarm messages
- Integral diagnostics
- Help menus
- Integral chromatogram display
- "Resume On Power Interrupt" feature

Inputs

- 12 each, stream select inputs or additional VistaBASIC inputs
- 4 each, VistaBASIC inputs
- up to 8 each, sensor inputs
- remote start
- 2 each, 13-bit differential VistaBASIC analog inputs

SQC Support

access to. . .

- peak area
- baseline noise
- analyzer status
- other data
- printer for hard copy reports

Serial outputs. . .

- 1 each, RS232 printer, write only

Digital Outputs. . .

- Up to 32 each, remote streams (10 each, standard)
- Up to 96 each, concentration alarms

Outputs

Analog trend outputs for component concentrations. . .

- 32 each, 4-20 ma isolated outputs
- 96 each, 0-5 or 1-5 volt outputs
- 0-10 volt recorder output

Other Support Functions

Program supports up to. . .

- 8 each, analyzer oven valves
- 8 each, methods
- 50 components