

Газовый хроматограф

FXiSeries7

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Next Generation Workhorse Process GC

The **FXI® Series 7™** is the next generation process gas chromatograph developed by AIT from a heritage of highly reliable process GCs. The FXI Series 7 blends an all new state-of-the-art HMI software and modular electronics platform with field-proven, robust chromatography architecture. New enhancements to the platform feature **ChromFX™** software, parallel chromatography, multiple-oven & (EPR), Electronic Pressure Regulation capabilities.



ChromFX™ delivers a game-changing user experience in process gas chromatography. AIT's new software platform simplifies user setup and operational functions through an intuitive, attractive and easy to navigate menu-selectable user interface. Utilizing a brilliant 12" touchscreen color GUI, it provides a large, color chromatogram display with easy to read overlays and labels. It integrates a modern scripting engine that is compatible with VB.NET, allowing rich user interfaces to be developed using commonly available supported software.

UPGRADE to the Series 7 Platform

For heritage users of Foxboro® and AIT's FXI Series 5 GC's systems, our engineers have designed an easy to install, single platform kit to bring your existing systems into a state of the art configuration. The upgrade kit features a new embedded electronics stack with ChromFX Software and rail-mounted interface modules.

To minimize downtime the upgrade can be easily performed in the field, leaving the existing sample conditioning systems and oven intact.



FXI Series 7 Process GC

FXI APPLICATIONS

Chemicals

- Ammonia Plants
- Chlorine Plants
- Air Separation Plants

Environmental

- Ambient Air Monitoring
- VOC Monitoring in Waste/Cooling Water & Flare Stacks

Natural Gas Processing

- BTU Analysis
- H2S and Total Sulphur
- Natural Gas Sweetening

Petrochemicals

- Ethylene Plants
- Polymerization Processes
- Convert Control
- Reactor Control
- Distillation Control

- Purification Efficiency
- Product Purity
- Process Safety Monitoring
- Aromatics Products
- Additive Product Analysis

Petroleum Refining

- Alkylation
- Catalytic Reformer
- Crude Distillation
- Catalytic Cracker
- Light Ends Recovery
- Hydrogen Reforming
- Vapor Recovery
- Isomerization

Pharmaceuticals

- EO Sterilization
- Solvent Analysis
- Gas Purity

New Packaging & Electronics for Superior Performance

The **FXI Series 7** combines state-of-the-art ChromFX software in a highly configurable system to deliver custom process chromatography like never before. Advanced packaging of the integrated purge system allows clean exterior lines.

The **FXI Series 7** is Available in Multiple Oven Configurations



Small Single Oven



Large Single Oven



Double Oven

New GC Electronics to Enhance Application Flexibility

Expanded, faster GC applications now available with multi-detector, parallel chromatography operation

- Up to 4 GC detectors, running simultaneously, collecting data from simple valve/column applets
- Option for multi-oven and different GC oven temperature zones can be provided
- Modular assembly with flexibility for Electronic Pressure Regulation and application techniques
- New small profile, very long life diaphragm chromatograph valves
- Up to 32 process streams in a single GC with ability of sample system control and monitoring

Networking Communications Capabilities

The **FXI Series 7** analyzer offers open system architecture allowing for a variety of connection options to a DCS system as well as supervisory connections to a plant Local Area Network. The Series 7 offers more flexibility and more expandability.

DCS Communications

- Serial MODBUS[®] RTU as the primary DCS connection using Modicon[®] data format. Dual port redundancy and data formats are offered as options.
- Redundant Modbus, Ethernet TCP, OPC and HART are available as options for DCS communications.
- Fully configurable analog and digital I/O with trending and data multiplexing are available.

Connectivity

- TCP/IP Ethernet connection is available for networking several GCs together for central monitoring within a shelter for remote monitoring over a plant LAN.
- Optional modem and remote communication software for remote diagnostics and troubleshooting.

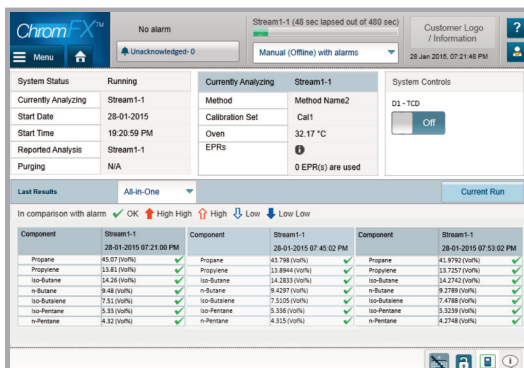
Workstation Option

- Remote analyzer workstation for interfacing to single or multiple PGCs for functions such as real-time chromatograms, data analysis reports and programming control.
- Multiple PGCs can be configured without the touchscreen and be interfaced to a single remote workstation for cost savings.



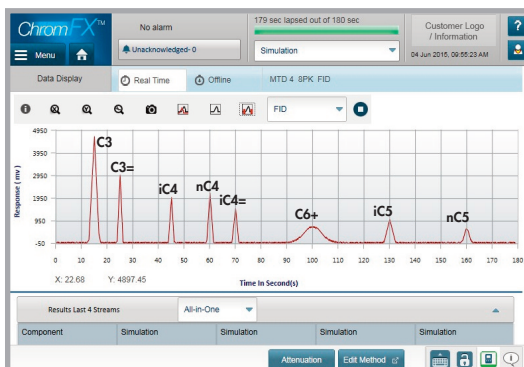
ChromFX Software Delivers the Power to Drive Your Process

ChromFX changes the game for process GC's. Created with the most advanced software development tools, ChromFX provides the user with an unmatched experience. It offers the most intuitive and easy-to-use process GC software available on the market. It's specifically designed for use with fingertip touch or stylus. The **FXI Series 7** GC analyzer has a built-in processor for standalone operation and control. A powerful 12.1" color display, touch-screen offers user interface with an "on demand" pull down virtual keyboard.



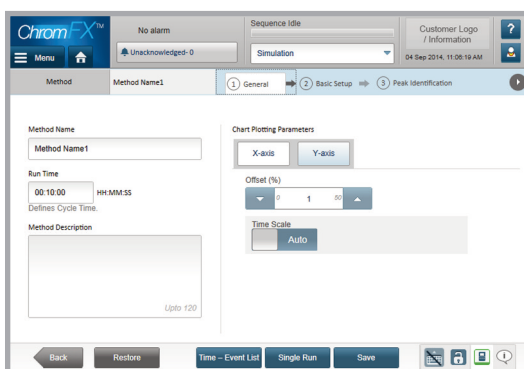
< The Dashboard Manager

The Dashboard Manager provides a convenient home page landing location. Developed for both the operator and technician, it gives an instant GC hardware status including real-time status of current stream data, alarms, composition and analysis of the prior four streams. Other screens can be easily navigated to via the drop down menu.



< Real-Time Chromatograms & Saved Chromatograms

ChromFX is a menu driven package utilizing pull down selections that allow for full GC configuration, status, maintenance and control operations that are easily accessed and can be changed on the fly. It also incorporates real-time & saved chromatograms with a new chromatogram simulating system that allows for active real-time comparison of theoretical stream chromatograms.



< Method Set-Up

ChromFX utilizes a step-by-step set-up wizard to configure your detectors, valves, columns and methods. You can easily configure the GC with ability to pull up a virtual keyboard. The set-up wizard will guide you through the configuration of a series of seven primary set pages utilizing touch screen, stylus or mouse and keyboard interface.

Specifications

Gas Chromatograph Standard Specifications

Performance – Repeatability Measurement by Area Intergration*

Range	TCD packed Column	FID Packed Column	FPD Packed Column	TCD/FID Capillary Column
0 to 100%	± 1%	± 1%	N/A	± 1%
0 to 10%	± 1%	± 1%	N/A	± 1%
0 to 1%	± 1%	± 1%	N/A	± 1%
0 to 0.5%	± 1.5%	± 1%	N/A	± 1.5%
0 to .1%	± 2%	± 1%	± 1%	± 2%
0 to 500 ppm	± 3%	± 1.5%	± 1.5%	± 2%
0 to 100 ppm	± 4%	± 2%	± 2%	± 2%
0 to 50 ppm	N/A	± 2%	± 2%	± 3%
0 to 10 ppm	N/A	± 2%	± 2%	± 4%
0 to 5 ppm	N/A	± 3%	± 3%	N/A
0 to 1 ppm	N/A	± 4%	± 4%	N/A

*Note: Specifications stated here are typical and must be confirmed based on specific applications.

Environmental and Oven Specifications

- Oven Temperature Range: 40° to 150°C (104° to 302°F)
- Temperature Control: ±0.02°C (± 0.036°F)
- Ambient Temperature Limits: - 15° and +50°C (5° and 122°F)
- Relative Humidity Limits: 0 - 95%, noncondensing
- Inside Oven Wall Material: AISI Type 316 stainless steel
- Power Requirements: 120 Vac, ±10%, 50/60 Hz, or 220 Vac, ±10%, 50/60 Hz, or 240 Vac, ±10%, 50/60 Hz
- Power Consumption: 1100 VA

Area Classification / Safety

- Electrical Safety Specifications: Suitable for use in USA, Class I, Groups B, C, & D, Division 2. and general purpose areas
- Certified ATEX as EEx pd [ia] IIB + H2 T3 with air purge

Process Control interface

- Up to 32 stream switching outputs
- Digital Inputs –16 digital inputs for monitoring the PGC and sample conditioning system are provided as standard
- Digital Outputs – Up to 32 current sinking outputs @ 200 mA or 5 voltage free contacts rated @ 5 A @ 30 VDC
- Analog Inputs – Eight analog input channels; 4-20 mA signals can be integrated into data reports and analysis system
- Analog Outputs – Eight isolated 4-20 mA signals proportional to measured range. More are optionally available
- Modbus RTU (RS232, RS485) or Modbus TCP are offered as standard
- Redundant Modbus, Ethernet TCP, and OPC are available as options

Expansion Capabilities

- RS232 serial port, (3) USB 2.0 (2) USB 3.0
10/100/1000, (2) BaseT Ethernet interface
- Internal solid state memory for archiving data: 64GB

Gas Requirements (application dependent)

- Operating Air: dry and oil-free air at 345 kPa (50 psi) minimum and 3.4 to 5.1 m³/h (2 to 3 ft³/min) at standard conditions. Maximum supply pressure is 690 kPa (100 psi)
- Carrier Gas: per application (e.g., He, N₂, H₂). Chromatographic grade (CG) required. Max. supply pressure is 414 kPa (60psi)
- Zero Air: CG hydrocarbon-free, dry air at 400 cm³/min (0.85 ft³/h) required for FID. Maximum supply pressure is 414 kPa (60psi)
- Zero Hydrogen: CG hydrocarbon-free, dry hydrogen at 40 cm³/min (2.4 in³/min) required for FID. Maximum supply pressure is 414 kPa (60 psi)

Detectors

- Thermal Conductivity, Flame Ionization, Flame Photometric, Helium Ionization; or combination of up to 4 detectors; (application dependent)
- Automatic safety shut-off protection for each detector

Instrument Dimensions (large single oven)

- Inside Dimensions of Oven (W x H x D): 510 x 460 x 270mm (20 x 18 x 10.5 in) includes purge & regulator panel
- Overall Dimensions (W x H x D): 790 x 1030 x 410mm (31 x 41 x 16 in)
- Approximate Mass: 120 kg (264 lb)

System Integration Designed to Meet Your Needs

We can design and build integrated systems for your project. AIT offers single or multi-stream sample conditioning systems to optimize the performance of your FXI Series 7 analyzers.



По вопросам продаж и поддержки обращайтесь:

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