





Fast on-line analysis, where you need it

POLLUTION GCX FAST ON-LINE ANALYSIS, WHERE YOU NEED IT

Based on micro gaschromatographic technology, the GCX is a powerful GC solution that provides fast, accurate, reliable analysis of gas samples. It is ideal for Quality and Process applications. Its rugged construction ensures long-term, trouble-free operation.



EASY AND EFFICIENT

The innovative modular system can perform the analysis of complex environmental matrices with a single sample. The GCX is equipped with Laptop or rack PanelPC and MC2 Software for the instrument complete control.

RUGGED AND RELIABLE

GCX is sturdily built and can perform complex analysis even for the demanding on-line application and in the harsh environment.

FAST AND ACCURATE

The high-performance analytical modules simplifies the analysis of complex samples containing high percentage and low ppm components using Auto-Sensing Technology (FAST).



GCX is equipped with a high-sensitivity universal detector, based on the Micro Electro--Mechanical System (MEMS) technology, that makes it 10 times more sensitive than the conventional Thermo Conductivity Detectors, capable of measuring down into the low ppm range.

CONTINUOUS ON-LINE MONITORING

The GCX analyses the volatile compounds in the air or in a gas stream are on-line, providing a continuous monitoring of different chemicals in a single analytic cycle.

The user can access to the system remotely to view the data or to select a different analytical method.

The connectivity with Ethernet and with embedded Wi-Fi enable instrument control from computer.

Moreover ModBus protocol via ethernet guarantee industrial PLC communication.

APPLICATIONS

- Natural Gas and Biogas composition and Heating Value
- Odorants (THT, TBM etc.)
- Alternative Energy (Fuel-cell, Bio-methane)
- Hydrocarbons (Refineries, Methane, etc.)
- Chemical and Process Industries
- Fermentation Process
- Industrial Hygiene and Worker Safety
- Industrial Emissions
- Custom Solutions



KEY FEATURES

- Maximum flexibility thanks to the modular design •
- Analysis in few seconds •
- 19" rack installation for critical conditions •
- User friendly MC2 Software Suite •
- Lan and Wi-Fi connection - from any device





Peaks Indication

- 1. Hydrogen
- 2. Oxygen
- 3. Notrogen 4. Methane
- 5. Carbon monoxide
- 6. Carbon dioxide
- 7. Ethylene
- 8. Ethane

- 9. Acethylene
- 10. Propane
- 11. Propylene
- 12. 1,2-Propadiene
- 13. Propyne
- 14. iso-Butane
- 15. n-Butane
- 16. trans -2-Butene

- 17. 1-Butene
- 18. iso-Butene
- 19. cis-2-Butene
- 20. iso-Pentane
- 21. n-Pentane
- 22. 1,3-Butadiene
- 24. 3-Methyl-2-butene
- 25. trans-2-Pentene
- 26. 1-Pentene 27. cis-2-Pentene
- 28. n-Hexane

23. Metilacetilene



ACCESSORIES

MPX and MPS multi-stream samplers



MPX is designed for distance sampling of low corrosive agents. It allows the managing of 8, 16, 24, 32 sampling points within 100 metres (basic version) or 300 metres (high-range version). It keeps monitored the status of the pump, the functioning of the electrovalves and the status of the filters.



MPS is designed to be easily re-located. It is equipped with an AISI316 rotating valve for aggressive samples.



Sample Conditioning

Specific accessories for sample conditioning are available. These systems extract the condensation, lower the temperature and regulate the pressure.

EDU3 is a thermal enricher/desorber, configured to be interfaced and automatically controlled by GCX. It allows to concentrate the sample up to 100 times (depending on the analyte). It includes sample and transfer line, swagelock 1/16 joint, setup interface, 3 Tenax concentration tubes.



Sample Lines

Complete equipment for sampling installation: fluxbox, terminals with sinterized filters for particulate, sampling lines in inert material (steel, PEEK or PTFE) heated at controlled adjustable or fixed temperature. Available in different lenght, temperature range and connections.

ANALYTICAL MODULES

The GCX can simultaneously analyse a wide range of compounds thanks to the modular design that allows the configuration up to four MicroGC modules.

Each module is an indipendent MicroGC allowing parallel analysis because it integrates a microinjector, a high-resolution capillary column and the TCD detector based on MEMS technology. Each module uses is own carrier gas (H2, He, Ar, N2) and sample inlet.

Availabile injectors:

- Variable Large Volume: it should only be used when lower detection limits are required
- Variable Volume: it allows greater analysis flexibility, even at low ppm concentration
- Fixed Volume: it allows to obtain the maximum repeatability for high concentration
- Backflush: it preserves the separation column from undesired contaminants

Main chromatographic columns with their respective applications:

Rxi-1ms	Hydrocarbons C4-C8, aromatics, solvents, halogenated anesthetics. BTEX, CFC, mercaptans, acroleine, oxygenates, etc.
CP-Sil19CB	Natural gas odorants (THT), hydrocarbons C6-C10
Molsieve 5A	Permanent gases: CH4, CO, H2, N2, O2, He, Ar, Ne, etc.
Rt-Q-Bond / Rt-U-Bond	Hydrocarbons C1-C3, volatile solvents, N2, N2O, CO2, CH4, NH3, H2S, SO2, acetylene, halogenates, free fatty acids, etc.
Stabilwax	High boiling point solvents. Alcohols, aldehydes, ketones, nitro compounds, etc.
Alumina	Hydrocarbons C3-C6, olefins and isomers



MicroGC Software Smart, user-friendly, efficient



MC TUNE

Chromatographic analysis

The analysis software MC-Tune, designed to maximise the efficiency of the microgaschromatographic technique, allows to:

- set the instrumental operating parameters
- drive the optional sample pre-concentration system
- perform the qualitative and quantitative calibration
- indicate to the instrument how to process the output signal

Through MC-Tune it is possible to perform an analysis and look over the chromatogram. If the instrument has previously been calibrated, it will provide name and concentration of the compounds.

MC PLAN

Automatic management of the activity

The MC-Plan software combines an easy and intuitive interface with an extreme flexibility, allowing to:

- work on different user levels protected by password
- select different preconfigured analytical methods
- start an analysis and read immediately the qualitative and quantitative results

- select days, hours and recurrence of the measurings for a continuous automatic monitoring
- export the data (on USB flash drive) and generate printable reports
- read on a synoptic chart the instantaneous concentration of every gas in every sampling point, with alarms for alert thresholds
- view on tables and charts the temporal trends of the concentrations
- send a visual, acoustic or remote alert (e-mail or sms) when the chosen limits are exceeded
- set the gases to be measured in each sampling point
- customise the timing of measurements and their sequence in case of multi-stream monitoring activity

MC PLAN plug-in

MC-PLAN-MP "Multistream"

Allows to drive the multistream sampler of the series MPX, MPS and MPS-H10.

MC-PLAN-MP "Particles"

Allows to manage in an integrated mode a complete system of indoor fixed particle counters for cleanrooms.

MC-PLAN-R "Advanced Report"

Allows to build up advanced reports with average values, trends, etc. and to print them out on an external printer.

MC-PLAN-R-CP "Report Calorific Power"

Allows to determine the values of calorific power (including Wobbe index and relative density) and to extract the complete report.

SPECIFICATIONS	
Size	178mm x 483mm x 457mm (H x L x D) - 4U Rack 19"
Weight	From 13 Kg to 16 Kg (according to the modules' number)
Power supply	100 - 240 VAC
Operating temperature	0°C - 50°C
Sampling conditions	Indoor and Outdoor with appropriate protection from atmospheric agents
Carrier Gas	Helium, Hydrogen, Nitrogen, Argon. Work pressure 400 kPa
Column temperature	Isothermal operation: 30-250 °C, 15°C above environmental temperature
Sample conditions	Temperature 0 - 140°C, pressure 0 - 170 kPa
Detector	TCD based on the Micro Electro-Mechanical System (MEMS) technology
Detection limits	1 ppm, n-Hexane (WCOT Columns)
Dynamic range	$10^6 \pm 10\%$
Repeatability	Retention Time: <= 0.1% RSD (WCOT Columns) Peak Area: <= 1% RSD (compounds at >= 0.1% concentration, WCOT columns)
Communication	Ethernet: RJ-45 connection; Wi-fi: IEEE 802.11a/g/n; Remote Digital I/O; Modbus (Optional)



THE ANSWER TO YOUR ON-SITE DETECTION CHALLENGES

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