

Real-time BTEX monitoring AirTOXIC – Gas Chromatography with PID or FID



AirTOXIC GC/PID/FID offers:

Continuous monitoring of Benzene, 1,3-Butadiene, Toluene
Ethylbenzene, m&p-xylene and o-xylene

Technical Specifications

Detector	PID or FID
Carrier gas	Nitrogen or Hydrogen
Cycle time	15-30 minutes
Applicable range	0.3 to 320 $\mu\text{g}/\text{m}^3$
Critical orifice	50 μm
Thermal desorber with high speed injection system directly in the column	
High Stability with self cleaning lamp	
Automatic calibration procedures	

Completely autonomous on-line analyzer

Features

Communication Software Suite: AirmoCOM

Data Handling Software: VistaCHROM

Applicable Uses

Ambient air VOC monitoring

Ozone precursor monitoring

Fence line monitoring

Industrial Hygiene

Process Emissions

Indoor Monitoring

**TUV Laboratory DIN Approval (Norm DIN 33963)
Institute for Atmospheric Pollution, National Research Council (CNR)
certification in 2006 for BTEX compounds**

A7 - airTOXIC BTEX PID (Computer Included) TSP A74

For evaluation of BTEX analyzers the NF EN 14662-3 recommends the separation of the 10 following compounds:
Methylcyclopentane / 2,4-Dimethylpentane / 2,2,3-TriMethylButane / CCL4 / CycloHexane / 3-Ethylpentane / 2-Methylhexane / 2,3-Dimethylpentane / TriChloroEthylene / NHeptane

DIN BTEX (TUV laboratory) certification 1996
CNR BTEX certification Italy 2006

- The airTOXIC BTEX is a rack-mountable 19" unit:
(482.6 mm x 220 mm(5U), 660 mm)
(19" wide x 8.6" high x 260" deep)
- Sample flow is controlled at a rate of 20ml/minute by a fully traceable, continuous, time-based programmable sampling period control system consisting of:
Critical orifice (50 μ)
Pressure transducer
External sampling pump (supplied with analyzer airmoPUMP-XXX901)
- Enrichment unit with one absorbent tube to analyze:
Benzene/Toluene/Ethylbenzene/(M+P) Xylene + O Xylene
- Single electronic pressure control module allowing the utilization of one valve for Nitrogen or Helium as carrier gas
- Thermal desorber with high-speed, non-split injection system
Direct complete injection of all VOC into the column
- Directly heated capillary GC system with programmable temperature gradient
- Flame ionization detector (FID)
- Photo ionization detector (PID), 10.6 eV Lamp
Self-cleaning PID lamp
Increased stability and repeatability
- Total cycle time 15 or 30 minutes (from sampling to result)
- Application range possible; 3 methods with amplification:
 - Method 1, amplification 1 (low)
 - Method 2, amplification 10 (middle)
 - Method 3, amplification 100 (high)
- LDL: 10 ppt on Method 3
- Programmable valve sequencing allowing for selection of sample or external calibration standard. Sequences can be programmed and modified in the software (VISTACHROM)
- Microprocessor controlled monitor
- Bi-directional RS-232C to transfer results and parameters to the internal computer
- Power supply: 110 or 230 VAC/
Power consumption: 130 VA, 24 VDC
- Instruction and operation manuals in hard copy and CD ROM version
English or French
- 6 Status LEDs in front panel of analyzer:
(alarm / sampling / stand-by / OK / warning / error)
- Internal Computer:
 - Computer: Type Pentium III 500 Mz 3V3
 - Hard disk: 40 GB with VISTACHROM software installed
 - Partition disk image (CD ROM disk image stored in Chromatotec)
 - Color flat screen LCD into the front panel
Screen sizes: 10.4", 800 x 600 dots
 - Ethernet: 10-100 MHz base T
 - 2 Serial ports compatible RS232, RS422, RS485
 - 4 ports USB2
 - Touch pad
 - **Windows XP Pro and Modem**
 - Supplied with a keyboard and mouse

VISTACHROM

- Powerful software package (viewer / service GC / driver / calcul) used for set-up of the instrument (method) and data collection.
 - Internal process control
 - Online control of operational mode
 - Method / batch method programming sequence
 - Data acquisition, real traceability and online chromatogram display
 - Time-stamped results
 - Chromatography software with reprocessing of the data by batch
 - Data and profile control (retention time / area / amount / concentration / trends)
 - Internal and external self diagnostics (status of operation and failures; approximately 50 different error codes)
 - **MODBUS in standard version: A74022**

Additional capabilities:

- High and low alarm relays per stream/compound for each sample point or analyzed area:
 - The TWA (Time Weighted Average); for example, 8 hours for Benzene
 - The STEL (Short Term Exposure Limit); 15 minutes
- 8 hour **averages** hourly (preceding 8 hours or every 8 hours)
- Specific calculation in any international measuring unit
 - Analogue output (4.20 mA)
 - Automatic report to printer
 - Piloting of multiple sample inlets/streams
 - VISTACHROM also controls the calibration device (option #1: permeation tubes) or an external calibration cylinder, allowing the user to schedule and configure online calibration and automatic online data validation. Scheduled analysis of the calibration standard allows for an automatic check of instrument stability and linearity. Alarms can be initiated in case of low analysis of concentration or any other trouble within the system.
 - PCAnywhere can be utilized for complete remote control/remote access of the system

AirmoCOM

- Powerful software package engineered for communication between GC internal computer and a host (datalogger) utilizing a serial link (RS232 / RS422 / RS485).
- Available communication protocols:
 - Serial MODBUS RTU with fully configurable register mapping
 - ADEME V2.1 mapping (JBUS)
 - Chromatotec mapping are available in standard
 - MGS1 air monitoring German protocol
Specific mapping could be created on quote
 - Data transfer: application compounds with area / concentration / RT (per analyzer)
 - STATUS x 6: (alarm / sampling / stand-by / OK / warning / error)
 - Error (default instrument) greater than 200
MJBUS server in the GC will reply to host requests (or Master)
 - The host can remotely control methods (zero/sample/calibration)
 - Max 6 methods in memory in the GC

OPTION #1: (XXX931 - PERMEATION CALIBRATION SYSTEM

- Calib - automatic calibration A calibration system that can be installed in the analyzer:
 - Permeation tube is installed in a temperature and flow controlled oven internal to the instrument
 - Interface board to control valves by methods and sequence in VISTACHROM