Gas Analyser GC866

**airTOXIC**<sup>BTX</sup> **PID**

* a GC/PID for automatic monitoring of BTEX.
* In air, water or soils

Approved and installed by National US EPA*

Model A73022

**Environment:**
- BTEX: 5 or 7 compounds
  - In non urban area: 0.032 to 32.5 µg/m³ 0-10 PPB
  - In urban area: 0.32 to 325 µg/m³ 0-100 PPB
  - In fence line refinery: 3.25 to 3250 µg/m³ = 0-1 PPM
- Indoor air
- Outdoor air

BTEX + CALIB standard + (Styrene + cyclohexane) = A73022
BTEX (without calib) = A74022
BTEX + 1,3-butadiene = A76022

Compliant with EN 14662: No interferences with BENZENE

Pattern Approval Certificate of the Measuring Instruments of PR China

**Process:**
- Industrial Hygiene
- Fence line

Option Purge & Trap (method 502-2) for water quality surveillance

* U.S Environmental Protection Agency: www.epa.gov

WWW.CHROMATOTEC.COM
Principle of the airTOXIC PID

- This instrument uses a port valve with a single absorbent trap, and a 30 meter metallic 0.28 mm ID column.
- Minimum detection level as low as 10 ppt for Benzene or 1.3 Butadiene (A76022) in ambient air.
- Miniaturization, sensitivity, mobility and flexibility are its main features. Everything from the sample port up to the data storage is integrated in a 19”-rack 5U.
- Programmed gradient temperature up to 202°c for the column oven and pressure/flow control of the carrier gas.
- Linearity on area with R² > 0.995
  European range : 0.45 to 45 µg/m³ = 0.1 to 14.5 ppb
- Before delivery the analyser is tested for one week by our quality control department.
- Photo ionisation detector (PID), 10.6 eV lamp.
- Self-cleaning of the lamp for high stability
- Bi-directionnal RS-232 C to transfer data and results to the internal computer.
- Vistachrom software enables the user to view and store data on a industrial computer. It provides comfortable user friendly utilities to recalculate, calibrate and export data and to configure the measurement.
- The software allows the calculation of retention time, area, mass or concentration profiles, in any measuring unit.
- CALIB standard in A73022 / Flow=50ml/min N2 or air continuously and 180 ml/min for 6 minutes in calibration method (one per day)
- Valve for external gas cylinder calibration in A74022
- LCD DISPLAY
- Digital output: communication protocol.

Theory

Photoionization is initiated by the absorption of short wavelength ultraviolet light by a molecule. This can lead to ionization as follows:

R + hv => R⁺ + e⁻

If the ionization potential of R is less than or equal to the energy of the photon, hv, then the species are ionized

The sensor consists of a sealed interchangeable ultraviolet lamp that emits a selected energy line.

Lamps with energies of 8.3, 9.5, 10.6 and 11.7 eV are available.

PID is linear.

Options

- MODBUS RTU
- CALIB for A74022
- Automatic validation and autocalibration
- Nitrogen generator up to 200 ml/min
- Modern support and remote control
- 4 or 8 Analog outputs 4-20 mA or 0-10 V.
  1.3 Butadiene (A76022)

Technical specifications

BTEX analysis: up to 8 compounds
- Benzene
- Toluene
- Ethylbenzene
- Xylenes : Ortho, meta, para
- Butadiene (model A76022)
- Cyclohexane
- Styrene

Lower detection limit (LDL) in automatic mode :
≤ 0.01 ppb = 0.0325 µg/m³

Detection range and linearity: BENZENE
3.25 to 3250 µg/m³ = 0-1000 ppb
0.32 to 325 µg/m³ = 0-100 ppb
0.032 to 32.5 µg/m³ =0-10 ppb

Relative standard variation: PRECISION
Better than 0.3 % over 48h (Retention Time)
Better than 2 % over 48 h on 1 ppb (Concentration)

Results on LCD :
- Data storage
- 4 or 8 x 4-20 mA or 0/10 V output in option
- MODBUS RTU / JBUS or Bayern Hessen protocol .

Cycle time:
15 or 20 or 30 min

Gas supply:
Nitrogen: 4 ml/min (inlet 3 bars; 1/8” swagelok)
Air or nitrogen for CALIB: 50 ml/min continuously and 180 ml/min in CALIB method
Detector cleaning : 3 ml/min
15ml/min , Sample inlet (vacuum pump) ¼”swagelok,

Sample volume:
20 to 400 ml or more (programmable)

Operation Temperature:
Room with air conditioning: 10 to 35°c

Computerized Electronic:
CPU: Pentium III
4xUSB Connecting Port
Two RS-232 ports
Display: 10’’ TFT Color LCD
Legally authorized software: Windows XP embeded

Power supply:
- main 230V 50Hz or 115V 60 Hz
- battery 24V (option)

Electrical consumption:
Average 150 VA, Peak 360 VA

Dimensions:
Rack 482 mm (19”)Height 222 mm (5U), depth 600 mm

Weight:
18 kg =analyser ( 37 kg with packaging )

Part information :

<table>
<thead>
<tr>
<th>Part information</th>
<th>Model</th>
</tr>
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<tbody>
<tr>
<td>BTEX + CALIB standard +(Styrène + cyclohexane)</td>
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<td>BTEX (without calib)</td>
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