

Medor[®] autoGC-ED

ppm (M41) or ppb (M42)

In partnership with Chromatotec, Envent is a distributor of the Medor[®]. An autoGC-ED (MEDOR[®] Electrochemical wet cell Detector) for the analysis and monitoring of sulfur compounds in natural gas and gaseous fuels: H₂S, Mercaptans, Sulfides.

The MEDOR[®] utilizes automatic sampling through a loop, which allows for consistent and precise sample introduction. This is followed by automatic loop injection onto a metallic capillary column within an isothermal gas chromatograph, maintaining a constant temperature to optimize separation of compounds. Detection of all compounds eluting from the column is carried out by the MEDOR[®] Detector, an electrochemical wet cell device known as a Sulfur Specific Detector (SSD). This detector generates a signal through an electrochemical reaction between the wet cell electrolyte and the sulfur compounds present in the sample, ensuring a sensitive and selective sulfur detection.

Features

- Fully compliant with ASTM D 7493-22
- Continuous monitoring with automatic online sampling.
- Specific, linear, and very sensitive to sulfur compounds.
- Results validation by automatic standard injection (the analyzer has the capability to automatically inject a standard into the analytical loop, and by comparing the detector's response to this standard, the system can validate its performance and accurate results)
- Long-term stability using wet cell detector installed in a reservoir.
- Long life detector with electrolyte (up to 10 years).
- Low carrier gas (nitrogen) consumption.
- More than 10 years of data storage.
- Analyzer incorporates an internal permeation oven, which can hold up to 10 standard permeation tubes, allowing the instrument to be calibrated automatically, without the use of a standard bottle.
- Automatic control with process device.
- Vistachrom software allows alarms or device faults to be reported by reporting various parameters (temperatures, pressures, instrument sensitivity, etc.), allowing the instrument to perform diagnostics or identify defective components, and predictive maintenance.
- Powerful VISTACHROM Chromatotec software:
 - Remote monitoring & injection control
 - Full traceability with on board archiving of results and chromatograms
 - QC setup and control of threshold alarms
 - Data export by MODBUS / 4 – 20 mA / 0 – 10V
 - Time stamp results



MEDOR M41022

ATEX



MEDOR M41022

Specifications

Detection Limits:

MEDOR® ppm
H₂S: 0.1 ppm (0.147 mg/m³), mercaptans: 0.1 ppm

Range (adjustable depending on application)

MEDOR® ppb
H₂S: 5 ppb (7.0 µg/m³), mercaptans: 5 ppb
0/10 or 0/100 or 0/1000 (ppb or ppm)
H₂S: From 5 ppb - *upper range application dependent*

Relative Standard Deviation

RSD < 3%: on concentration over 48 hours
RSD: < 0.5% on retention time over 48 hours

Cycle Times

| | |
|--------------------------------------|--|
| H ₂ S / MM / EM: | 300 seconds |
| H ₂ S, mercaptans 1, THT: | 720 seconds |
| H ₂ S, mercaptans 1, THT: | 900 seconds with CALIB for validation of each analysis |
| H ₂ S, mercaptans 2, THT: | 1200 seconds |

Supervisor

Embedded computer Windows-based with LCD display
32 GB of hardware storage on SSD memory

Linearity

> 0.995 for all compounds

Communication

MODBUS protocol included in standard

Gas Supply

Carrier: Dry air or N₂ (3 bar): < 4 ml/min
Use N₂ if THT is present
Internal calibration: 50 ml/min for ppm range
Pneumatic valve 90 ml/commutation

Sampling Condition

In suction mode: Must be atmospheric pressure (1015 hPa)
Under pressure mode: Must be between 1 and sample must be between 1 and 2 bars relative

Power Supply

Main: 230V / 115V or 50/60 Hz

Electrical Consumption

Average: 150 VA

Dimensions & Weight

| | |
|-------------------|--------------------|
| Rack: 19" (5U) | Exd version: |
| Height: 222 mm | Height: 1900 mm |
| Width: 482 mm | Width: 800 mm |
| Depth: 660 mm | Depth: 600 mm |
| Net Weight: 22 kg | Net Weight: 105 kg |

Main Industries/Apps

Petrochemical
Gas Transportation
Process
Custody Transfer Stations
Mercaptans
Total Sulfur Speciation

Electrical Certifications:

Explosion Proof Version Exp or Exd for
ATEX IECEx Zone 1 and 2 group IIC T4

CSA CID2 group B, C & D T4

1 – Methyl Mercaptan, Ethyl Mercaptan, Isopropyl Mercaptan, Tert-Butyl Mercaptan, N-Propyl Mercaptan, Methyl Ethyl Sulfide and sum of Benzyl Mercaptan, N-Butyl Mercaptan and TetraHydroThiophene

2 - Methyl Mercaptan, Ethyl Mercaptan, Isopropyl Mercaptan, Tert-Butyl Mercaptan, N-Propyl Mercaptan, Methyl Ethyl Sulfide, 2 Benzyl Mercaptan, IsoButyl Mercaptan, N-Butyl Mercaptan, TetraHydroThiophene

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