



# ASPROC

GC FOR SULFUR COMPOUNDS

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**ONLINE GAS AND LIQUID ANALYZER EXPERTS**

**GAS ANALYZER GC 866**

**energyMEDOR®**

**ppm** (M41) or **ppb** (M42)

Online analysis and monitoring of sulfur compounds in natural gas and gaseous fuels



Model: M41022



Model: M41022 - Atex - 21 - Exd

**Main applications:**

- Impurities detection in Natural Gas / LPG / Propane / Butane
- Deodorisation control ppb
- Propellant gas
- Catalyzer protection
- Natural gas or LPG odorisation control ppm

**Targetted compounds:**

- In standard : THT / H<sub>2</sub>S / DMS / Mercaptans: MM / EM / IPM / TBM /NPM/ MES
- In option: 2 BM / IBM / NBM

**Main markets:**

- Petrochemical
- Gas transportation
- Process
- Fiscal metering station

**Standard:**

ASTM D7493-14, ISO 19739:2004, DIN 51855/7

**Certifications:**

GOST



*Chromatotec® is specialized in VOC, Sulfur and permanent gases analysis down to ultra trace levels (% , ppm, ppb, ppt). Please visit our website for more details*

THT  
TBM  
H<sub>2</sub>S  
DMS  
DMDS  
ODORANTS  
ET-SH  
BU-SH



# energyMEDOR®

ppm (M41) or ppb (M42)

Online analysis and monitoring of sulfur compounds  
in natural gas and gaseous fuels



## Description:

The energyMEDOR® is an autoGC-ED (MEDOR® Electrochemical wet cell Detector) for the analysis and monitoring of sulfur compounds in natural gas and gaseous fuels: H<sub>2</sub>S, Mercaptans, Sulfides.

Two versions exist:

- The energyMEDOR® ppm (which measures at ppm levels)
- The energyMEDOR® ppb (which measures at ppb levels).

## Principle:

- Automatic sampling using a loop
- Automatic loop injection on metallic capillary column
- Isothermal gas chromatograph
- Detection of all compounds eluting from the column performed by MEDOR® Detector: Electrochemical wet cell Detector which is SSD Sulfur Specific Detector.
- Signal provided by electrochemical reaction between the wet cell electrolyte and the sulfur compounds

## Key points:

- Fully compliant with ASTM D 7493-14 : Standard Test Method for On-line Measurement of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatograph and Electrochemical Detection
- Continuous monitoring with automatic online sampling
- Analytical performances:
  - Specific, linear and very sensitive to sulfur compounds
  - Results validation by automatic standard injection
  - Long term stability using wet cell detector installed in reservoir
- Extremely low maintenance
  - Very long life time detector with electrolyte, up to 10 years
  - Low gas consumption, can be reduced in option
  - More than 10 years data storage
  - No cylinders required thanks to internal calibration tube
- Automatic control with process device
- Intelligence system with tunable and interactive alarms levels
- Powerfull VISTACHROM Chromatotec® software:
  - Remote monitoring & injection control
  - Full traceability with on board archiving of results and chromatograms
  - QC Set up and control of threshold alarms
  - Data export by MODBUS / 4-20 mA / 0-10 V
  - Time stamp results

## Available options:

- Explosion proof version Exp or Exd for Atex IECEx zone 1 and 2 group IIC T4 and also for CSA C1D2 group B , C & D T4
- Internal calibration and validation system with permeation tube
- Multiple stream selector (up to 16 streams with one analyzer)
- Calculation modules (Average / Statistics / Odor index...)
- Automatic data transfert through: Module for 4 outputs 4-20mA (with 0 mA for instrument default / 0-10 V / Modbus RTU or TCP IP
- Electric selection valve to reduce air consumption
- 24 V DC power supply
- Nitrogen generator for safe or hazardous area

## Technical specifications:

### Detection limits:

- energyMEDOR® ppm:  
H<sub>2</sub>S: 0.1 ppm (0.1417 mg/m<sup>3</sup>), mercaptans: 0.1 ppm
- energyMEDOR® ppb:  
H<sub>2</sub>S: 5 ppb (7.0 µg/m<sup>3</sup>), mercaptans: 5 ppb

### Range (adjustable depending on application):

- 0/10 or 0/100 or 0/1000 (ppb or ppm)

### Relative Standard Deviation:

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

### Cycle Time for the following different analysis:

- H<sub>2</sub>S/ MM / EM 300 s
- H<sub>2</sub>S, mercaptans 1,THT 720 s
- H<sub>2</sub>S, mercaptans 1,THT 900 s with CALIB for validation of each analysis
- H<sub>2</sub>S, mercaptans2,THT 1200 s

### 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 N<sub>2</sub> (3 bar): < 4 ml/min
- Use N<sub>2</sub> if THT is present
- Internal calibration: 50 ml/min for ppm range
- Sample inlet 1 bar
- Pneumatic valve 90 ml/commutation

### Power supply:

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

### Electrical consumption:

- Average: 150 VA

### Dimensions and weight:

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

<sup>1</sup> MM / EM / IPM / TBM / NPM / MES and Total BM if no THT  
<sup>2</sup> MM / EM / IPM / TBM / NPM / 2 BM / IBM / NBM / THT

### To order:

energyMEDOR® ppm / inbuilt computer  
energyMEDOR® ppb with CALIB /  
inbuilt computer  
energyMEDOR Exp Atex zone 2  
energyMEDOR Exp Atex zone 1  
energyMEDOR® Exd Atex zone 1

### Model:

M41022  
M42022  
M41022-ATEX-Z2  
M41022-ATEX-Z1  
M41022-ATEX-Z1-Exd

