

# MEDOR<sup>®</sup> Exp ATEX

On-line analysis & monitoring of sulfur compounds in natural gas and gaseous fuels for hazardous area



Model: Medor<sup>®</sup> Exp ATEX

**ATEX:**  
zones 1 and 2  
GROUP IIB T4

### Main applications:

Impurities detection in Natural Gas / LPG / Propane / Butane  
Propellant gas  
Catalyzer protection

### Targetted compounds:

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

### Main markets:

Petrochemical  
Gas transportation  
Process

### Standard:

ASTM D7493-08, ISO 19739:2004, DIN 51855/7



Chromatotec<sup>®</sup> is specialised in VOC, Sulfur and permanent gases analysis at trace and ultra trace levels (ppm, ppb, ppt).  
Please visit our website for more details.

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THT

TBM

DMS

H<sub>2</sub>S

Bu-SH

Me-SH

Et-SH

# MEDOR® Exp ATEX

On-line analysis & monitoring of sulfur compounds in natural gas and gaseous fuels for hazardous area



## Description:

The MEDOR® Exp is an industrial gas chromatograph for the analysis and monitoring of sulfur compounds in natural gas and gaseous fuels: H<sub>2</sub>S, Mercaptans, Sulfides.

Two versions exist: ppm range or ppb range

## Principle:

- Automatic sampling using a loop
- Loop injection by automatic valve on the column
- Isothermal gas chromatograph
- Detection of all compounds eluting from the column performed by Chromatotec's wet cell sulfur specific detector
- Signal provided by electrochemical reaction between the wet cell electrolyte and the sulfur compounds

## Key points:

- Fully compliant with ASTM D 7493-08 : Standard Test Method for On-line Measurement of Sulfur Compounds in Natural Gas and Gaseous Fuels by Gas Chromatograph and Electrochemical Detection
- Internal automatic calibration system allowing automatic validation of the data
- Continuous monitoring with automatic online sampling
- Analytical performances:
  - Specific and very sensitive to sulfur compounds
  - Results validation by automatic standard injection at each analysis
  - Long term stability using wet cell detector installed in reservoir
- Extremely low maintenance
  - Very long life time detector, up to 10 years including electrolyte
  - Low gas consumption, can be reduced in option
  - More than 10 years data storage
  - No calibration cylinders required thanks to internal calibration tube
- Automatic control with process device
- Intelligence system with tunable and interactive alarms levels
- Internal temperature and pressure monitoring
- 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
  - On site direct access to the analyzer with LCD screen and touch pad on front panel

## Options:

- External multiple stream selector (up to 16 streams controlled by the analyzer)
- Calculation modules (Average / Statistics / Odor index...)
- Electric selection valve to reduce air consumption
- 24 V DC power supply, can work on battery or solar panel
- Vortex cooler (air consumption depending of external t°)
- X - Purge for Zone 1
- Inert purge with N<sub>2</sub> for low consumption of purge gas with X-purge (can work on N<sub>2</sub> cylinders)
- Internal electric heater and/or cooler for temperature regulation of the Exp cabinet with thermal insulation

## Technical specifications:

- Speciation and/or total sulfur

## Detection limits:

- **MEDOR® Exp ppm:**
  - H<sub>2</sub>S: 0,1 ppm (0,14 mg/m<sup>3</sup>)
- **MEDOR® Exp ppb:**
  - H<sub>2</sub>S: 5 ppb (7,0 µg/m<sup>3</sup>) or DMS: 2 ppb (5,1 µg/m<sup>3</sup>)

## Range adjustable, depending on application:

- 0/10 or 0/100 or 0/1000 ppm or ppb
- Calculation: total sulfur, total mercaptans...

## Relative Standard Deviation:

- RSD < 3% on concentration over 48H.
- RSD < 0.5% on retention time over 48H.

## Cycle Time:

- |                                     |  |
|-------------------------------------|--|
| • H <sub>2</sub> S                  | 120 s  |
| • H <sub>2</sub> S/TOS/T5           | 120 s  |
| • THT                               | 180s (if only THT)                               |
| • H <sub>2</sub> S, MM, EM          | 300s   |
| • H <sub>2</sub> S, mercaptans, THT | 720 s  |
| • H <sub>2</sub> S, mercaptans, THT | 900 s with CALIB for validation of each analysis |

## Supervisor:

- Embed industrial computer Windows® based with LCD display
- 32 GB of hardware storage on SSD memory

## Communication:

- MODBUS communication protocol
- 4-20mA
- Ethernet
- 3G module (optional)

## Gas supply for GC operation:

- Carrier: zero air or N<sub>2</sub> (3 bar): 4 ml/min. Use N<sub>2</sub> if THT is present
- CALIB: air or N<sub>2</sub> 50 ml/min
- Sample inlet 1 bar: 80 ml/min
- Pneumatic valve: 90 ml/commutation (0 ml in option)

## Gas supply for Exp cabinet:

- If air used for dilution: 30 l/min in continue
- If nitrogen used for dilution: 500 l to purge the cabinet and < 0,5 l/min in continue to maintain overpressure

## Power supply:

- Main: 230V / 115V or 50/60 Hz
- 24 V DC in option

## Electrical consumption:

- 150 VA without options

## Dimensions and Weight:

- Height: 800 mm
- Width: 600 mm
- Depth: 300 mm
- Net weight: 40 kg

## To order:

MEDOR® Exp Atex zone1  
MEDOR® Exp Atex zone2

## Model:

Upon request  
Upon request

Chromatotec® is continuously improving its products, therefore these specifications are subject to change without notice

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