

H<sub>2</sub>

CO

CH<sub>4</sub>O<sub>2</sub>

Neon

CO<sub>2</sub>N<sub>2</sub>H<sub>2</sub>S

# chromaTCD

Universal Detector

Online analysis and monitoring of permanent gases  
and/or hydrocarbons from low ppm to %



Model: C41022



Model: C41022-ATEX

## Main applications:

Pure gas quality control : UHP (Ultra High Purity)  
Process  
Fermentation control  
Dissolved oxygen in water

## Targetted compounds:

O<sub>2</sub> / CO<sub>2</sub> / CO / Ne / H<sub>2</sub>  
CH<sub>4</sub> / Ethane / Butane / Propane / H<sub>2</sub>S

## Main markets:

Refineries / Petrochemicals  
Process  
Ambiant / Industrial air monitoring  
Odor impact management

## Certification:

ATEX, IECEx, CSA, CSA international



Chromatotec® 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.

Updated: December 2021

#### Description:

The chromaTCD is an autoGCTCD (Thermal Conductivity Detector) for the analysis of permanent gases and/or hydrocarbons.

#### Principle:

Automatic sampling using a loop.

Automatic loop injection on metallic packed column.

Isothermal gas chromatograph.

Detection of all compounds eluting from the column performed by TCD.

Signal provided by measurement of thermal conductivity difference between the reference cell (carrier gas) and the measure cell (outlet of the column) is measured.

The different **parameters** (data, chromatogram, integration report...) are **transferred via a RS-232** port and they are visualised and reprocessed with our VISTACHROM software.

#### Key points:

Automatic calibration/validation of the data from external cylinder.

Continuous monitoring with automatic online sampling.

Analytical performances: Specific, linear and very sensitive TCD detector.

Long term stability.

Extremely low maintenance.

Very long life time detector with security for filament protection.

Low gas consumption, can be reduced in option.

More than 10 years data storage.

Automatic control with process device.

Intelligents system with tunable and interactive alarm levels.

#### **Powerful 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

#### Options:

- Carrier gas purifier for UHP analysis
- Automatic data transfert through: Module for 4 outputs 4-20mA / Modbus RTU or TCP IP / MGS1
- Calculation modules (Average / Statistics / Odor unit OU e/m3 and more)
- **Automatic results validation**
- 24 V power supply
- **Explosion proof version Exp for ATEX, IECEx zone 1 and 2 and also for CSA C1D2**
- Hydrogen and Nitrogen generator
- Multiple stream selector (up to 16 streams with one analyser)
- **Sampling pump in 24V DC or airmoPUMP (XXX901)**
- Pressure and temperature measure
- **Mass Flow Controller** (MFC, in order to improve dilution precision and so calibration quality)
- Electric selection valve to reduce air consumption
- Wall mounted box XXX934
- Touch screen for wall mounted version XXXScreen
- VORTEX cooler and/or internal heater for temperature control of the wall mounted or Exp cabinet

#### Product technical specifications:

##### Permanent and/or organic gas analysis:

- Neon, H<sub>2</sub>, O<sub>2</sub>, N<sub>2</sub>, CH<sub>4</sub>, CO, CO<sub>2</sub>, CHX...

##### Detection limit:

- Neon and H<sub>2</sub> ≤ 2 ppm

##### Detection range:

- ppm to %. Depending on the options (loop and amplification)

##### Relative Standard Deviation: Repeatability

- RSD < 5% over 48h (concentration)
- RSD < 0.6% over 48h (retention time)

##### Cycle time:

- 10 minutes for H<sub>2</sub> and for O<sub>2</sub> / N<sub>2</sub>

##### Supervisor:

- Embedded computer Windows® based with LCD display
- 128 GB of Hardware storage on SSD memory

##### Communication:

- Ethernet, remote control

##### Gas supply:

- He as carrier gas (inlet: 3.5 bar ; 1/16" double ferrule)
- Calibration inlet : 1 bar ; 1/16" double ferrule
- Sample inlet : 1 bar ; 1/16" double ferrule
- Pneumatic valve 90 mL/min commutation

##### Volume sampled:

- 0.1 to 2 mL depending on application and detection range

##### Power supply:

- Main (230V / 115V 50 Hz/60Hz)
- Battery 24V (option)

##### Electric consumption:

- Average : 100 VA; Peak : 200 VA

##### Dimensions and weight:

- |                                 |                       |
|---------------------------------|-----------------------|
| • <b>Rack: 19" (5U)</b>         | • <b>Exp version:</b> |
| • Height: 222 mm                | • Height: 800 mm      |
| • Width: 482 mm                 | • Width: 600 mm       |
| • Depth: 660 mm                 | • Depth: 300 mm       |
| • Net weight of analyser: 20 kg | • Net weight: 40 kg   |

##### To order:

chromaTCD rack 5U  
chromaTCD Exp ATEX zone 2  
chromaTCD Exp ATEX zone 1  
chromaTCD Exp IECEx zone 1  
chromaTCD Exp CSA C1D2

##### Model:

C41022  
C41022-ATEX-Z2  
C41022-ATEX-Z1  
C41022-IECEx-Z1  
C41022-CSA-C1D2

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

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