

CHROMA^{THC}

Monitoring and analysis of Methane and Non-Methane
Total Hydrocarbons (**NMTHC**) by **flame ionisation detection**



Model: C24000

Applications of the instrument include:

- Total Hydrocarbons
- Impurities in pure gas processing
- Emissions monitoring
- Filter integrity monitoring
- VOC / UHC monitoring (Industrial Hygiene) in option

*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: July 2013

VOC

NMTHC

CH₄

C₂H₆

THC

CH₄ and Non Methane Total HydroCarbon (NMTHC) Monitoring and analysis of Methane and Non-Methane Total Hydrocarbons by **flame ionisation detection**

Principle:

The CHROMA^{THC} is an automated isothermal industrial gas chromatograph dedicated to the analysis of volatile organic compounds in air (indoor, outdoor, combustion), industrial hygiene, pure gas like N₂/CO₂/O₂.

- As a fully automatic instrument, the CHROMA^{THC} allows **un-attended operation after commissioning 24/24**.
- The injection is made via a **loop** and **valve** installed in an **isothermal oven** at a standard 80°C.
- The separation between CH₄ and (C₂H₆ for UHC) and NMTHC is achieved using a **column with back flush**.

Unlike other similar analysers, there is no interference from oxygen.

To eliminate issues with flame fluctuation, a valve regulates hydrogen carrier gas.

The retention time drift is less than 0,3 %.

- The instrument has a flame ionization detector (FID) heated at 150°C with **auto ignition**.
- Valve for automatic calibration.

VISTACHROM ® software:

Chromatotec® developed software system allows:

- Remote monitoring
- Full traceability through archiving of results and QC
- Set up and control of threshold alarms
- Export of data MODBUS / MGS1 / 4-20mA / 0-10V
- Sequence (air / calib / cylinder / zero / blank)

Options:

- CALIB with permeation tube
- MODBUS / JBUS communication protocol
- 4-20 mA or 0-10 V analog output
- **Automatic validation**
- **Adaptation of a purified air generator (air without VOC)**
- 24 V power supply
- Pressurised housing **Exp** for area 1
- Multiple stream selector (2 to 6)
- Hydrogen and air generator
- **CHROMA^{THC} 4U** – controlled by BTX analyzer with inbuilt computer
- **CHROMA^{THC} 4U** – controlled by wall mounted computer, reference XXX023
- **CHROMA^{THC} 5U**, reference C21022, with inbuilt computer
- **Note: one supervisor unit, can control up to 3 Chromatotec® analysers**
- Heated line for industrial application
- Vacuum pump option

Technical specifications:

CH₄ and non-methanic compound analysis:

- CH₄ and NMHC with THC by calculation

Lower Detection limit:

- 20 ppb methane
- NMHC 50 ppb as propane

CH₄ in ambient air=1800ppb

- Xylene < 10 ppb

Detection range:

- 20 to 2 000 ppb: NMTHC (equivalent CH₄)
- CH₄ 20 to 2 000 ppb
- THC = CH₄ + NMTHC

Autocalibration:

- Automatic calibration and span gas

Relative Standard Deviation:

- < 0.3 % over 48 h (RT)
- < 2 % over 48 h (Span Concentration)

Results:

- Data storage for traceability
- 4-20 mA or 0/10 V output (options)
- MODBUS / JBUS or MGS1 communication protocol (option)
- **Ethernet connectivity for remote access**

Cycle time:

- **Response time 3 or 5 or 7,5 min.**

Gas supply:

- H₂ (FID and carrier gas): 30 ml/min (Inlet 2 bars; 1/16" Swagelok)
- Air (FID): 180 ml/min (inlet 3 bars; 1/8" Swagelok)
- Sample inlet (vacuum pump in option) 1/4" Swagelok 80 ml/min at ambient pressure

Sample volume:

- Injection loop. **Range specific**

Power supply:

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

Electrical consumption:

- Mean: 150 VA

Dimensions and weight:

- Rack 19" (4U) - for C24000
- Height: 180 mm
- Width: 482 mm
- Depth: 600 mm
- Net weight: 17 kg

For ordering:

- chromaTHC 4U (CH₄/NMTHC)

Model:

C24000

- chromaTHC 5U (CH₄/NMTHC) (with inbuilt computer ref. XXX022)

C24022

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