

Application Data Sheet

No. 122

System Gas Chromatograph

Nitrous Oxide (N₂O) Released from Soil Analyzer Nexis GC-2030 N₂OCC1 GC-2014 N₂OCC1

This GC system is designed for determining the chemical composition of natural gases and similar gaseous mixtures within the composition range shown in the specification sheet. This test method provides data for calculating physical properties of the sample, such as heating value and relative density, or for monitoring the concentrations of one or more of the components in a mixture. A total of 5 valves and 8 columns are used in this GC system. Sample is loaded into three sample loops for determination. Using a pre-column, the C6+ components are back-flushed as a single peak. The valve timing then allows the hydrocarbons C3 through to C5 to be separated by an Alumina capillary column and detected by FID. Using a P-N column, Air+CO+CH₄ elute as a mixed peak to a packed MS-5A column and then separated., Switching the valve, CO₂, C₂, H₂S elute to a P-Q column and then separated and detected by TCD. The final analysis time is approximately 10 minutes. The system includes LabSolutions GC workstation software and BTU and Specific Gravity calculation software.

Analyzer Information

System Configuration:

Four valves / seven packed columns with TCD, FID, and ECD detector

Sample Information:

N₂O in greenhouse gases and soil gases

Concentration Range:

| No. | Name of Compound | Concentration Range | | Detector |
|-----|------------------|---------------------|------------|----------|
| | | Low Conc. | High Conc. | |
| 1 | N ₂ O | 50ppb | 170ppm | ECD |
| 2 | CH ₄ | 1ppm | 1000ppm | FID |
| 3 | CO ₂ | 100ppm | 1% | TCD |

Detection limits may vary depending on the sample. Please contact us for more consultation.

System Features

- 9 minutes analysis for Greenhouse gases or soil gases analysis can be carried out
- Two channels with FID /TCD and ECD detectors
- Analyzer provides simultaneous analysis the gas with one injection
- Linear response, simplifies calibration

Typical Chromatograms

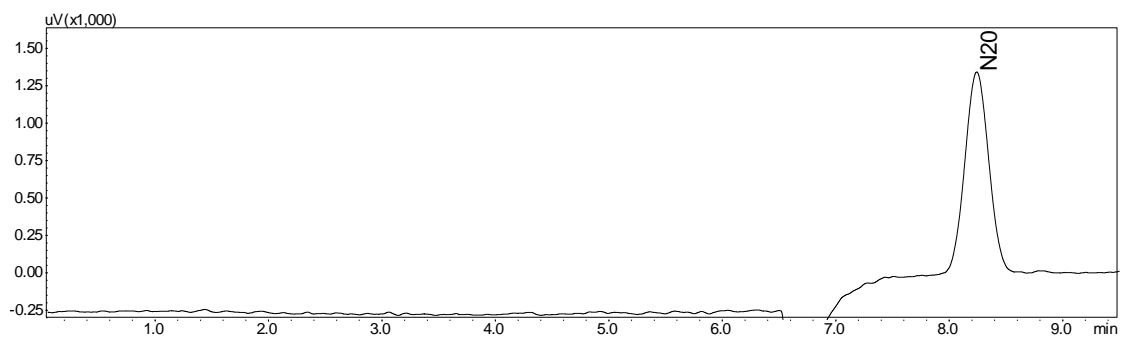


Fig.1 Chromatogram of ECD

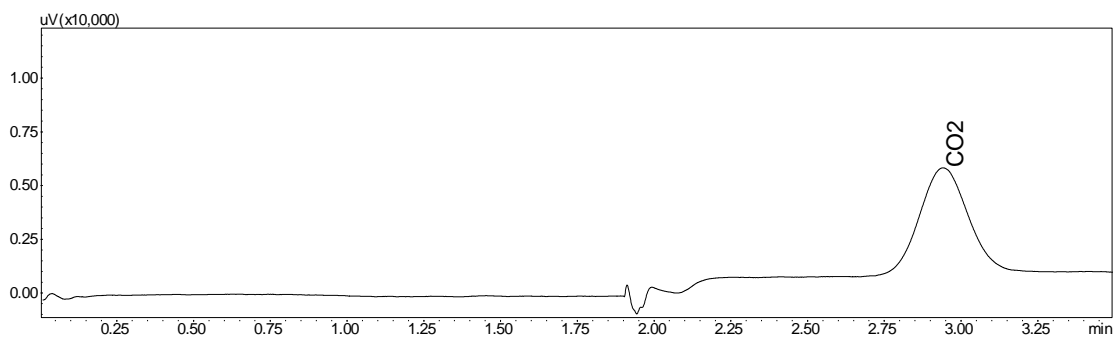


Fig.2 Chromatogram of TCD

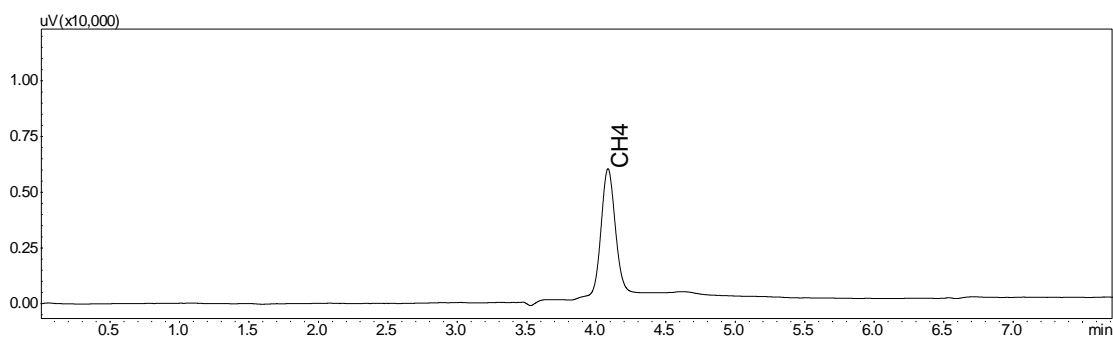


Fig. 3 Chromatogram of FID

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