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Application Data Sheet

No.20

System Gas Chromatograph

High Sensitive CO, CO_2, CH_4 Analysis Nexis GC-2030CCC4 GC-2014CCC4

This system is designed to measure a trace amount of carbon monoxide (CO), methane (CH4) and carbon dioxide (CO2) in a gas sample, such as He, H2, N2 and Ar. The sample is injected automatically through a 10-port valve. First, a Porapak-N pre-column is used to cut the above C2 compounds. The Porapak functions to separate CO/CH4 and CO2. CO and CH4 are separated by an MS-13X column, while CO2 moves through the Porapak-Q. CO/CH4 and CO2 are then combined before a methanizer. CO and CO2 are reduced to CH4 by means of a nickel catalyst and detected by a flame ionization detector (FID). If the matrix contains O2, this concentration should be less than 0.1% to protect the catalyst from damage The system includes LabSolutions GC workstation software.

Analyzer Information

System Configuration:
Two valves / four packed columns / Methanizer with FID detector

Sample Information:
CO, CO_2, CH_4

Concentration Range:

No.	Name of Compound	Concentration Range	
		Low Conc.	High Conc.
1	CO	1.0ppm	100ppm
2	CO2	1.0ppm	100ppm
3	CH4	1.0ppm	100ppm

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

System Features

- Single channel with packed columns
- Hydrocarbons and water are backflushed by the pre-column while trace CO, CO_2, CH_4 reach FID.
- Good separation between CH_4 and CO with MS-13X packed column
- 13 minutes analysis time

Typical Chromatograms

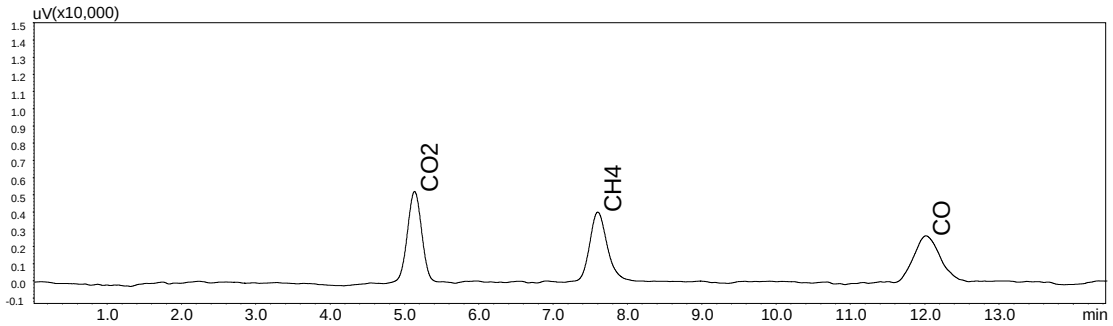

Fig. 1 Chromatogram of FID

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Shimadzu Corporation
www.shimadzu.com/an/