

Application Data Sheet

No. 32

System Gas Chromatograph

TOGAS Analysis System with oil stripper device Nexis GC-2030TOGAS1 GC-2014TOGAS1

A simple and efficient method based on the technique of oil stripper sampling and valve switching is used for this TOGAS analysis. The sample is directed into the main-column-1 (P-N) by using a sample syringe, and separated in groups. The permanent gas and CH₄ are directed into main-column-2 (MS-13X) through 2-1, and H₂, O₂, and N₂ are detected by TCD. CH₄ and CO deoxidized into CH₄ by MTN-1 are detected by FID. Valve switching occurs before the CO₂ is directed into main-column-2. The other hydrocarbons and CO₂ are directed into main-column-3 (P-Q). They are detected by FID. After the detection of C₂H₂, the valve is immediately switched to its original position to wait for the next analysis. The system includes LabSolutions GC workstation software.

Analyzer Information

System Configuration:

Two valves / four packed columns / TCD / FID with Methanizer

Sample Information:

H₂, O₂, N₂, CH₄, CO, CO₂, C₂ in transformer oil

Methods met:

ASTM-D3612B

Concentration Range:

No.	Name of Compound	Concentration Range	
		Low Conc.	High Conc.
1	H ₂	20ppm	10%
2	O ₂	500ppm	1%
3	N ₂	500ppm	10%
4	CH ₄	1ppm	1%
5	CO	2ppm	2%
6	CO ₂	2ppm	2%
7	C ₂ H ₆	1ppm	1%
8	C ₂ H ₄	1ppm	1%
9	C ₂ H ₂	1ppm	1%

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

System Features

- Single channel with packed column
- Oil sample is analyzed by using technique of oil stripper sampling and valve switching
- 16 minute analysis time
- Trace level of CO and CO₂ are deoxidized into CH₄ by methanizer and detected by FID

Typical Chromatograms

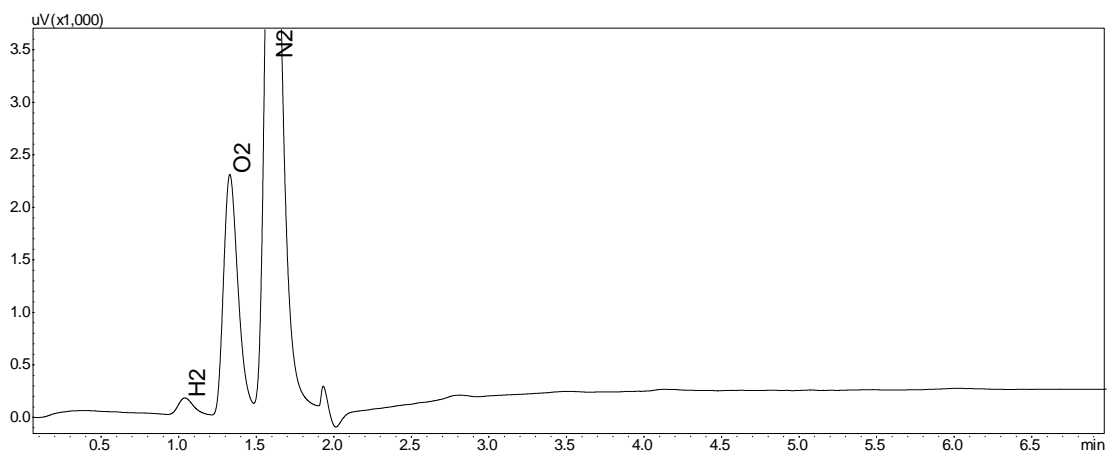


Fig. 1 Chromatogram of TCD

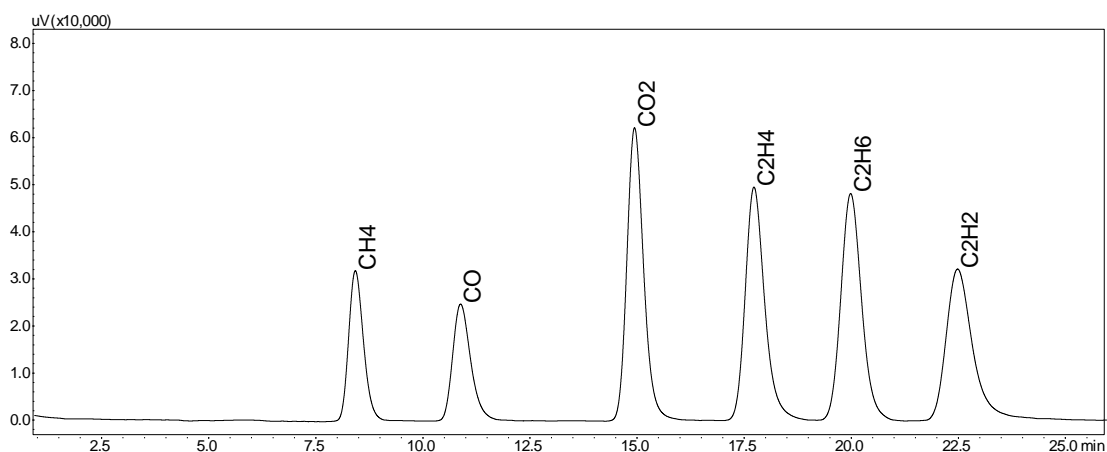


Fig. 2 Chromatogram of FID

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