

Application Data Sheet

No.2

System Gas Chromatograph

Natural Gas Analyzer Nexis GC-2030NGA2 GC-2014NGA2

This method is for determining the chemical composition of natural gases and similar gaseous mixtures within the composition range shown in the specification sheet. It provides data for calculating a sample's physical properties, such as its heating value and relative density, or for monitoring the concentrations of one or more of the components in a mixture. This analyzer uses a total of two valves and four columns. The sample is introduced into three sample loops for determination. Using a pre-column, C6+ components are back-flushed as a single peak. The valve timing then allows C3-C5, CO₂, and C₂H₆ to be eluted to a TCD through a DC-200 column in that order. Finally, using MS-5A, O₂, N₂, CH₄, and CO are separated and detected by the TCD. The run time is approximately 20 minutes. The system includes LabSolutions GC workstation software and BTU and Specific Gravity calculation software.

Analyzer Information

System Configuration:

Two valves / four packed columns with one TCD detector

Sample Information:

O₂, N₂, CO, CO₂, H₂S, C₁-C₅ (methane, ethane, propane, iso-butane, n-butane, iso-pentane, and n-pentane), C₆₊ by backflush

Methods met:

ASTM-D1945, D3588

Concentration Range:

No.	Name of Compound	Concentration Range	
		Low Conc.	High Conc.
1	O ₂	0.01%	20.0%
2	N ₂	0.01%	50.0%
3	CH ₄	20.0%	100.0%
4	CO	0.01%	5.0%
5	CO ₂	0.01%	20.0%
6	C ₂ H ₆	0.01%	10.0%
7	C ₃ H ₈	0.01%	10.0%
8	i-C ₄ H ₁₀	0.01%	10.0%
9	n-C ₄ H ₁₀	0.01%	10.0%
10	i-C ₅ H ₁₂	0.01%	2.0%
11	n-C ₅ H ₁₂	0.01%	2.0%
12	H ₂ S	0.10%	30.0%
13	C ₆₊	0.01%	0.5%

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

System Features

- 23 minutes analysis for natural gas
- Single TCD channel
- Calorific value software is available
- Second FID/TCD channel can be added for additional analyses

Typical Chromatograms

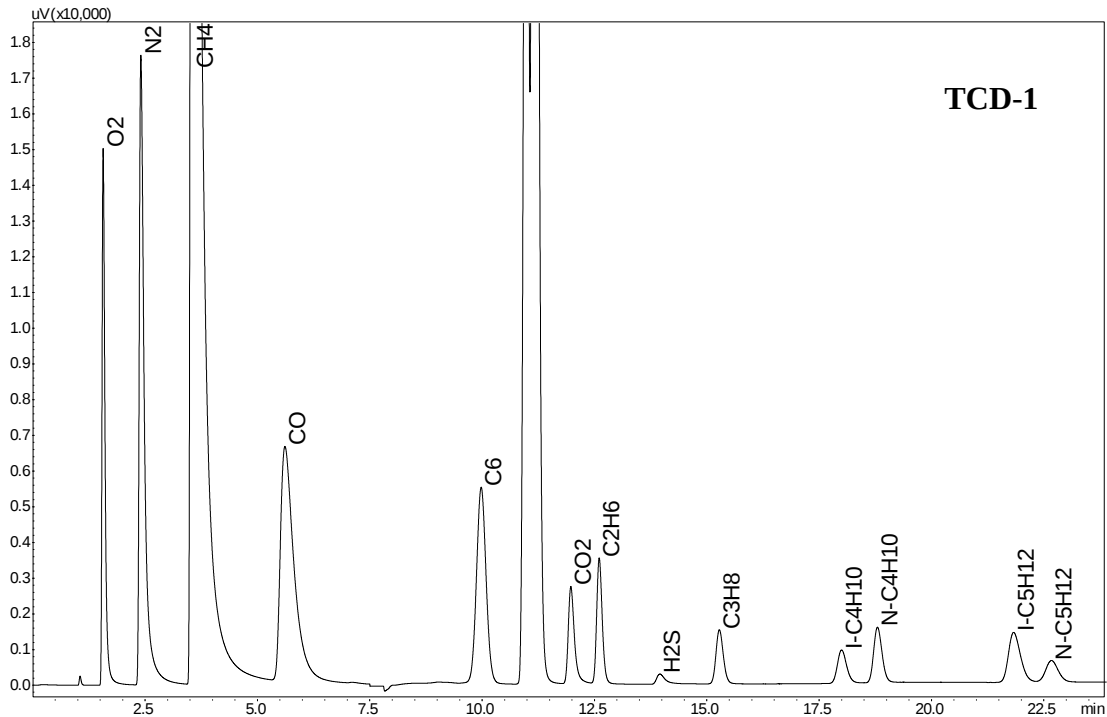


Fig. 1 Chromatogram of TCD-1

First Edition: November, 2017

