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Application Data Sheet

No.5

System Gas Chromatograph

Extended Natural Gas Analyzer
Nexis GC-2030ENGA1
GC-2014ENGA1

This method is for determining the chemical composition of natural gases and similar gaseous mixtures within the composition range shown in the specification sheet. Itd 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 system is configured with a total of four valves and seven columns. The sample is introduced into four sample loops for determination. Using MS-5A, O2, N2, CH4, and CO are separated; simultaneously, CO2, C2, and H2S are separated using an Rtx-Q plot column and detected by the TCD. H2 will be separated by MS-5A and, with the other components vented out, detected by another TCD using N2 as carrier gas. In the channel of FID, C3-C14 will be separated with an Rtx-1 capillary column and detected by FID. The final analysis time is approximately 40 minutes. The system includes LabSolutions GC workstation software and BTU and Specific Gravity calculation software. The system's one oven accommodates these columns.

Analyzer Information

System Configuration:
Four valves / seven capillary and packed columns with two TCD / one FID detectors

Sample Information:
He, H_2, O_2, N_2, CO, CO_2, H_2S, C_1~C_{14}

Methods met:
ASTM-D1945, D3588, GPA-2261

Concentration Range:

No.	Name of Compound	Concentration Range	
		Low Conc.	High Conc.
1	He	0.010%	10.0%
2	H2	0.010%	10.0%
3	O2	0.010%	20.0%
4	N2	0.010%	50.0%
5	CH4	20.000%	100.0%
6	CO	0.010%	5.0%
7	CO2	0.010%	20.0%
8	C2H6	0.010%	10.0%
9	H2S	0.100%	30.0%
10	C3H8	0.001%	10.0%
11	i-C4H10	0.001%	10.0%
12	n-C4H10	0.001%	10.0%
13	i-C5H12	0.001%	2.0%
14	n-C5H12	0.001%	2.0%
15	C6 through C13	0.001%	1.0%

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

System Features

- Dual TCD and FID channels
- C3-C14 separated by non-polar capillary column on FID
- Liquefied sample can be directly injected to split/splitless injector and analyzed by FID
- Versatile software easy GC system operation

Typical Chromatograms

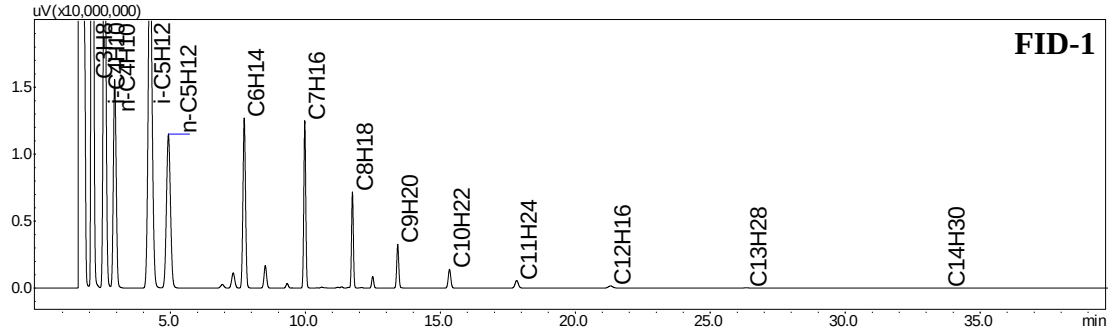

Fig. 1 Chromatogram of FID-1

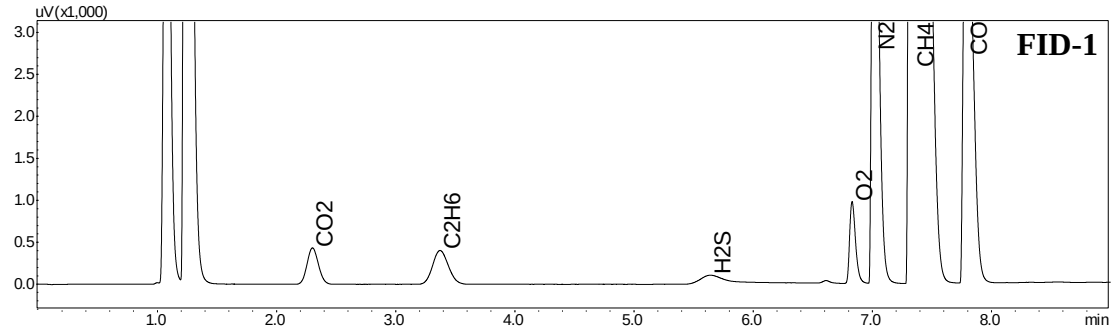

Fig. 2 Chromatogram of TCD-1

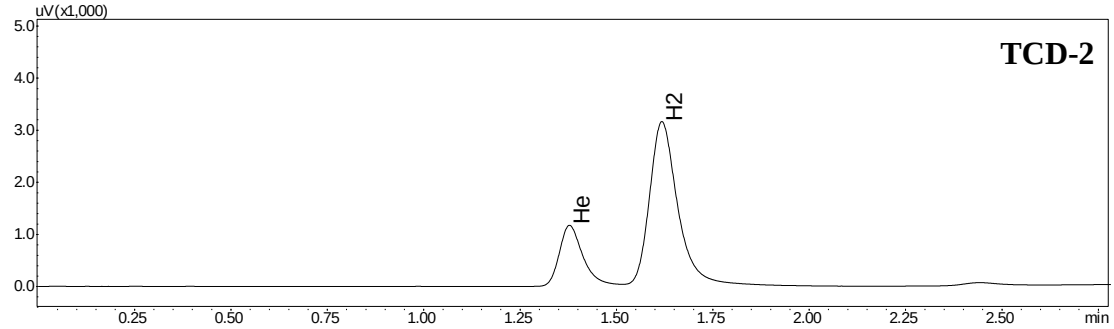

Fig. 3 Chromatogram of TCD-2

First Edition: November, 2017

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