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Application Data Sheet

No.126

System Gas Chromatograph

BID Ultra-Fast Refinery Gas Analyzer Nexis GC-2030 BIDUFRGA

This GC system is for determining the chemical composition of natural gases and similar gaseous mixtures within the composition range shown below. 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 3 valves and 6 columns are used in this GC system. The sample is loaded into three sample loops for determination. Using a pre-column, C6+ components are back-flushed as a single peak. The valve timing then allows the hydrocarbons C1 through to C5 to be separated by an Alumina capillary column and detected by FID. A MS-5A separates H2, O2, N2, CH4, CO while CO2, C2H4, C2H6, C2H2, H2S are separated by Rtx-Q plot column and detected by a BID. The final analysis time is approximately 5.5 minutes. The system includes LabSolutions workstation software and BTU and Specific Gravity calculation software.

Analyzer Information

System Configuration:
Three valves / three packed columns and three capillary columns with one BID detector and one FID detector

Sample Information:
Permanent gas,C1-C6,H_2S

Concentration Range:

No.	Name of Compound	Concentration Range		Remarks
		Low Conc.	High Conc.	
1	H2	0.01%	10.0%	BID
2	O2	0.01%	10.0%	BID
3	N2	0.01%	10.0%	BID
4	CO	0.01%	10.0%	BID
5	CO2	0.01%	10.0%	BID
6	C2H4	0.01%	10.0%	BID
7	C2H6	0.01%	10.0%	BID
8	C2H2	0.01%	10.0%	BID
9	H2S	0.01%	30.0%	BID
10	CH4	0.01%	80.0%	FID
11	C3H8	0.001%	5.0%	FID
13	C3H6	0.001%	5.0%	FID
14	i-C4H10	0.001%	1.0%	FID
15	n-C4H10	0.001%	1.0%	FID
16	C3H4	0.001%	1.0%	FID
17	C2H2	0.001%	1.0%	FID
18	trans-C4H8	0.001%	0.5%	FID
19	1-C4H8	0.001%	0.5%	FID
20	i-C4H8	0.001%	0.5%	FID
21	cis-C4H8	0.001%	0.5%	FID
22	i-C5H12	0.001%	0.5%	FID
23	n-C5H12	0.001%	0.5%	FID
24	1,3-C4H6	0.001%	0.5%	FID
25	C3H4	0.001%	0.5%	FID
26	C6 plus	0.001%	0.5%	FID

Concentration range may vary depending on the sample. Please contact us for more consultation.

System Features

- Versatile software easy GC system operation
- Two channels with FID /BID detectors realizes high-speed analysis
- Linear response, simplifies calibration

Typical Chromatograms

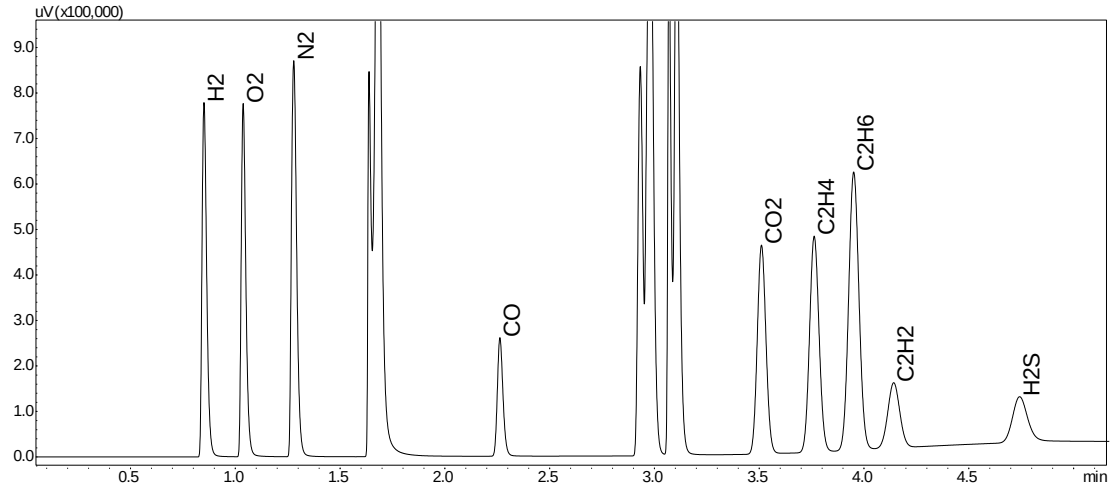

Fig. 1 Chromatogram of BID

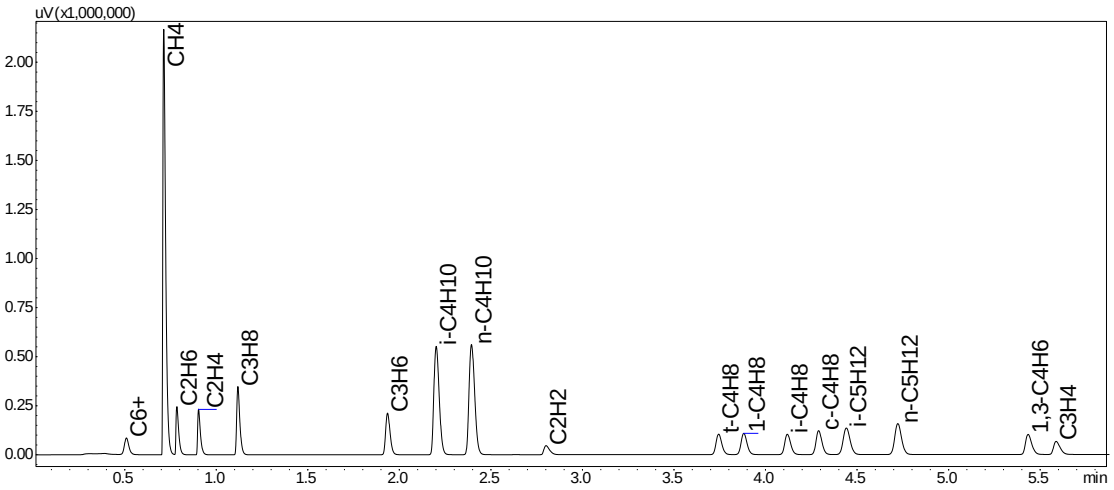

Fig. 2 Chromatogram of FID

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