

# Application Data Sheet



### 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<sub>2</sub>S

### Concentration Range:

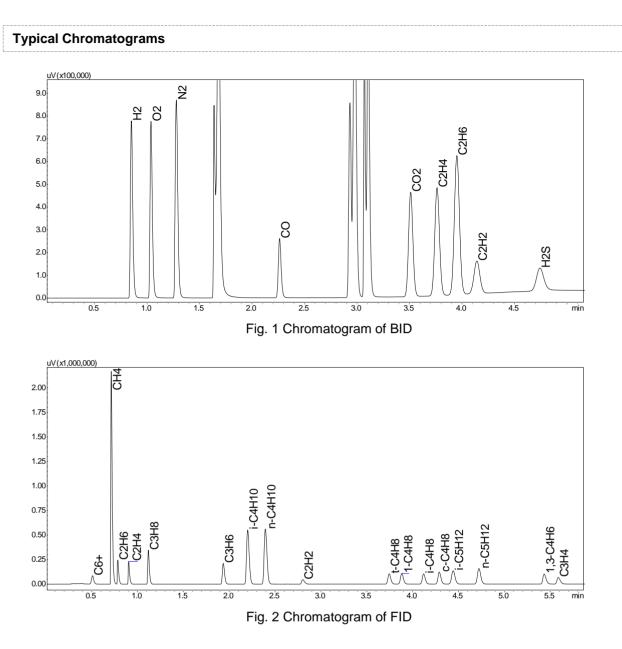
|     | Name of Compound | Concentration Range |            | Demender |
|-----|------------------|---------------------|------------|----------|
| No. |                  | Low Conc.           | High Conc. | Remarks  |
| 1   | H2               | 0.01%               | 10.0%      | BID      |
| 2   | O2               | 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



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