Series 8900GC Application Note

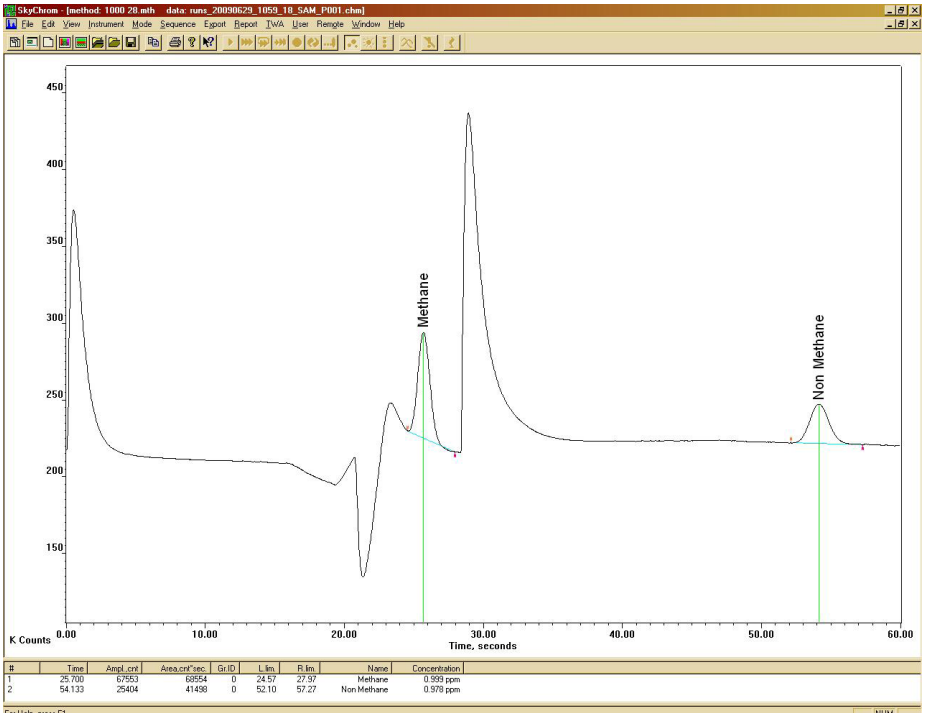
Methane / Non-Methane

Analyzer

The Model 8900 Methane/Non-Methane Analyzer provides direct measurement of Methane and Non-Methane Hydrocarbons. This instrument is utilized in ambient air monitoring networks around metropolitan areas, fence-line monitoring at industrial plants and hazardous waste sites, and in the production of high purity industrial gases.

Methane is a naturally occurring gas generated from the decomposition of biological materials and industrial activity. Since Methane is not considered a pollutant it is the Non-Methane hydrocarbons that are of primary concern.

The Model 8900 Methane/Non-Methane Analyzer employs a flame ionization detector (FID) as the sensing element. This detector is specific to hydrocarbons. Using a single detector configuration eliminates the detector balancing, maintenance, and additional fuel and combustion air of a dual detector analyzer. The Methane in the gas sample is physically seperated from all other hydrocarbons using a proprietary GC column. It is then forwarded to the detector for analysis. The carrier gas flow is then reversed and the remaining hydrocarbon components reconbine and are analyzed by the detector. Since the Methane and Non-Methane components are analyzed directly, a more accurate reading is obtained than by using a subtractive technique.



Application

- Measurement of methane and non-methane hydrocarbons for environmental air quality

Features

- Direct Methane and Non-Methane measurement
- Automatic baseline adjustment for long-term stability
- Automatic FID ignition
- Automatic calibration to a known standard
- Automatic Hydrogen & Combustion Air shutoff for maximum safety
- Electronic support gas regulation
- Analog output ranges are user selectable
- Multipoint sampling options
- RS-232 and optional LAN

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Specifications

Analysis Time: <70 seconds

Detector: FID

Column: Packed

Oven Temperature: 50 °C, Nominal

Lower Detection Limit: 20ppb as Methane, Non-Methane 50ppb as Propane

Accuracy: ±5% (relative) within dynamic range.

Precision: 2% of Measured Value

Carrier: Hydrogen, 24cc/min typical

Fuel: Hydrogen, 16cc/min typical

Combustion Air: Air, 200cc/min typical

Output:

Analog: (1) 0-20ma or 4-20ma loop power supplied, isolated. Selectable for: gas concentration, unintegrated detector signal. Options for up to 20 additional programmable 0-20ma, 4-20ma or voltage outputs: 0-1V, 0-5V, or 0-10V.

Digital: RS-232, optional Local Area Network

Relays: (5) User programmable relays for concentration and diagnostic alarms (1A @ 30Vdc). Options for up to 32 additional relays available.

Inputs: Optional digital input board for 3 contact closure inputs. Supports start analysis, start calibration, and analyze calibration gas sample.

This application note is an only an example based on customer or market specifications. These parameters are variable and therefore do not reflect all of the versatility and options of Series 8900 GC. Please contact Baseline regarding your specific application

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