Series 8900GC Application Note

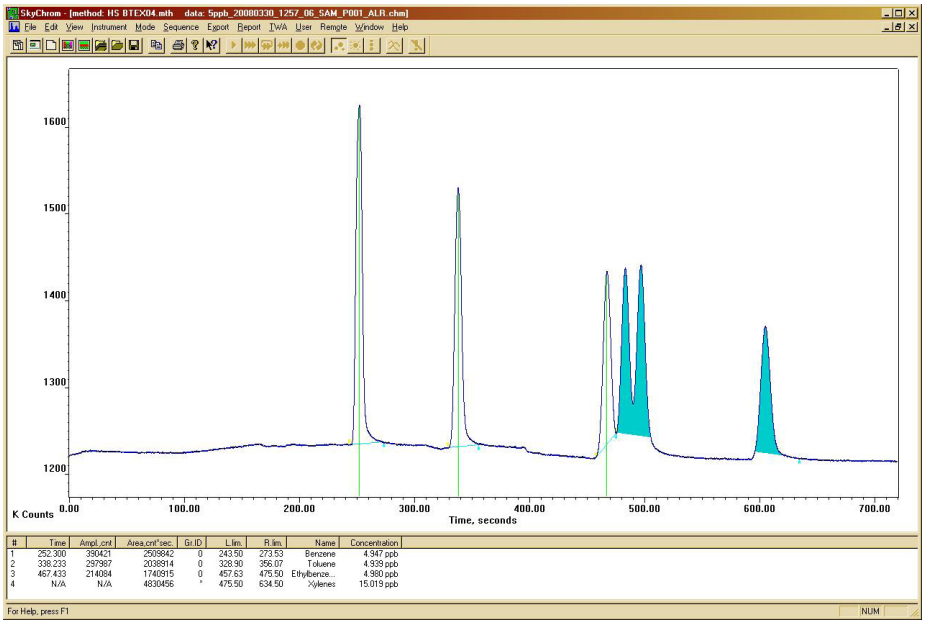
BTEX in Ambient Air using a High-Sensitivity PID

Baseline®- mocon®, Inc.

Analyzer

The Series 8900 BTEX Analyzer with a high-sensitivity PID provides direct low level measurement of Benzene, Toluene, Ethylbenzene, and Xylene's in ambient air. This instrument is utilized in ambient air networks around metropolitan areas and fence-line monitoring at industrial sites.

The Series 8900 BTEX Analyzer employs a high-sensitivity photoionization detector (PID) as the sensing element. This detector is specific to volitile organic compounds. The Benzene, Toluene, Ethylbenzene, and Xylene's in the gas sample are physically separated using proprietary GC columns. A dual column configuration with timed backflush to vent is used to strip off moisture and heavier hydrocarbons. A pre-cut column is used in series with the analytical column. At sample injection a fixed volume of sample is carried to the pre-cut column. Backflush is timed so that only the BTEX and other similar components are eluted to the analytical column. Contaminants on the pre-cut column are backflushed to vent. Benzene, Toluene, Ethylbenzene, and Xylene's are separated from potentially interfering components on the analytical column and elute to the detector for analysis.



Application

- Low-level measurement of aromatic hydrocarbons for pollution control and environmental monitoring

Features

- Direct low level measurement of Benzene, Toluene, Ethylbenzene, and Xylene's in Ambient Air
- Interference free response
- Automatic calibration for unattended operation
- Automatic baseline adjustment for long-term stability
- Optional analog ouputs of Benzene, Toluene, Ethylbenzene, Xylene's and detector signal
- Analog output ranges are user selectable
- Multipoint sampling options
- RS-232 and optional LAN

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Specifications

Analysis Time: <720 seconds

Detector: High-sensitivity PID

Column: Capillary

Oven Temperature: 85 °C, Nominal

Carrier Gas: Nitrogen, 20 cc/min, Nominal

Lower Detection Limit: <0.05ppb Benzene, <0.1ppb Toluene, <0.1ppb Ethylbenzene, <0.1ppb Xylenes

Accuracy: 1% of Full-scale

Precision: 2% of Measured Value

Span Drift (24HR): <2% of Full-scale

Sample Flow Rate: 250-500cc/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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