

# Model 8900GC Application Note

## BTEX Analysis

Baseline - MOCOM, Inc.™

### Application

The Model 8900 BTEX Analyzer provides direct measurement of Benzene, Toluene, Ethylbenzene and Xylenes. 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.

As the concentration of hydrocarbons in ambient air is proportional the increase in automobile emissions monitoring ambient levels of Benzene, Toluene, Ethylbenzene and Xylenes becomes more important.

The Model 8900 BTEX Analyzer employs a photoionization detector (PID) as the sensing element. This detector is specific to volatile organic compounds. The Benzene, Toluene, Ethylbenzene and Xylenes 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 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 Xylenes are separated from potentially interfering components on the analytical column and elute to the detector for analysis.

### Analysis

Sample:

Sample Flow Rate: 500cc/min

Column: Proprietary Micro-Packed

Oven Temperature: 80°C

Detector: PID (FID optional)

Analysis Time: <70 seconds

Carrier: Nitrogen, 40cc/min

### Features

- Direct Measurement of Benzene, Toluene, Ethylbenzene and Xylenes
- Automatic Restart for Unattended Operation
- Automatic Zeroing for Long-term Stability
- Local and Remote Calibration
- Internal Sample Pump
- Electronic Support Gas Regulation
- Analog Outputs of Benzene, Toluene, Ethylbenzene and Xylenes and Detector Signal
- Analog Output Ranges are User Selectable
- Concentration and Diagnostic Alarm Relays

*Baseline, the reference point  
from which all things are measured.*

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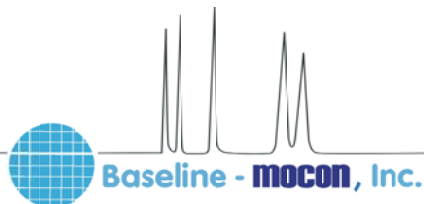
## BTEX Analysis

**Baseline - MOCON, Inc.** <sup>TM</sup>

### Specifications

Lower Detection Limit	<1 ppb Benzene
Range	User Selectable from 0-10 to 0-10,000ppm
Accuracy	1% of Full Scale
Precision	2% of Measured Value
Span Drift(24hr)	<1% of Full Scale
Zero Drift(24hr)	<1% of Full Scale
Analysis Time	<140 Seconds
Sample Flow Rate	500cc/min
Oven Temperature	80°C
Output	Benzene, Toluene, Ethylbenzene and Xylenes Gas Concentrations and Unintegrated Detector Signal User Selectable 0-20ma or 4-20ma (voltage outputs optional)

Represented by:



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