

BEX-1000FT

Multi-Component Emissions Analyzer System

A&D
Discover Precision

Supervisory test cell control system for automating engine calibration

A&D Technology's multi-component emissions analyzer system, BEX-1000FT, is based on FTIR (Fourier Transform Infra-Red) technology and is designed for the continuous measurement of diluted or undiluted vehicle exhaust in a laboratory environment. The system provides optimized gas analysis methods for different fuel types, including Gasoline, Diesel, CNG and other alternative fuels.

To fulfill today's and future emissions regulations, a simultaneous reduction of particulate and NOX emissions is necessary. Particulate emissions are reduced by the usage of Diesel Oxidation Catalyst (DOC) and Diesel Particulate Filters (DPF). Both systems convert NO to NO₂, which may have a detrimental influence on the SCR (DeNOX) catalyst. Additionally, these after-treatment devices have the ability to create supplementary contaminants (such as N₂O and NH₃), which are very accurately measured using FTIR technology, but not using conventional emissions analyzers.

Because the BEX-1000FT system allows for the simultaneous measurement of more than 30 gases at one detector, with a sample rate of up to 5 Hz, it is the ideal measuring device for testing these catalytic systems and other emissions after-treatment devices, in various combinations.

The list of measurable gases includes NO, NO₂, N₂O, NH₃, CO, CO₂ and CH₄, as well as alcohols and carbonyls.



The A&D BEX-1000FT multi-component analyzer system has been designed for the continuous measurement of diluted or undiluted vehicle

Benefits

- Low cost of ownership due to drift-free calibration and minimal maintenance requirements
- Highly portable and vibration dampened, allowing for effortless test cell sharing
- Accurately measures the most important exhaust gas components with a sample rate of up to 5 Hz
- Excellent correlation with conventional analyzer systems

Features

- Allows for measurement of up to 40 regulated and unregulated gases at one detector
- Differentiate measurement of NO, NO₂, N₂O, NH₃, CO, CO₂ and CH₄,
- Differentiate measurement of hydrocarbons
- Fast response, T10-90 time < 1.5seconds
- Complies with legislative requirements, for FTIR measurement, by US EPA 40 CFR part 1065

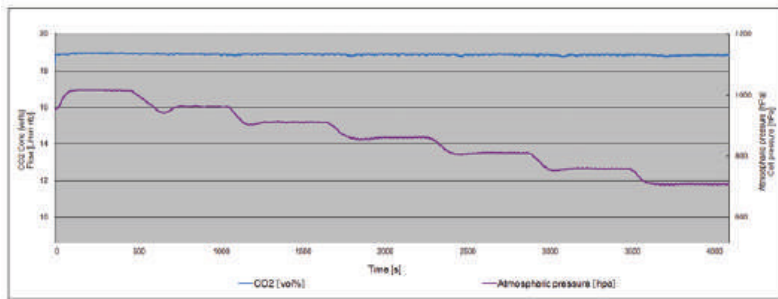
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High and Low Pressure Control System

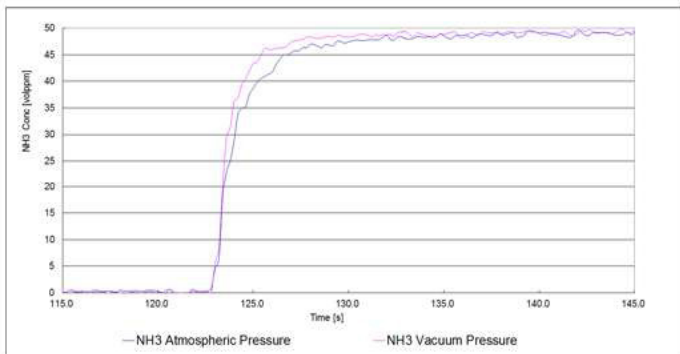
With the optional high and low pressure control system, BEX-1000FT can be used at low atmospheric pressure test chambers (simulated altitudes of app. 4000 m/13,120 ft.). Inversely the system can also accept high exhaust pressure, produced by sampling in between emissions after-treatment devices, or with a turbocharger.



The optional sample system accepts sample pressures of 0 – 400

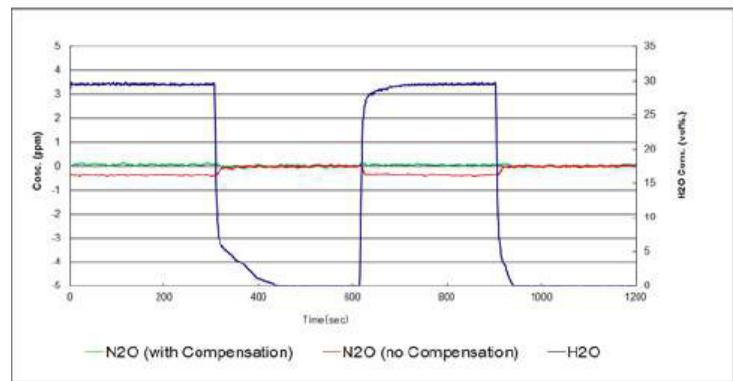
Fast Response Time

The BEX-1000FT measures the exhaust under vacuum pressure, significantly reducing the adsorption, exhaust gas consumption, and the response time.



Cross Interference Compensation System

Measurements can be forged by the cross interference between different gases. Water content in the exhaust can have an especially significant influence on the measurements of certain gases (e.g. NO). The BEX-1000FT cross interference compensation minimizes these effects of water, and other interfering gases.



Changes in the H2O concentration do not affect the N2O measurement kPa, and an atmospheric pressures of 700-1000 mBar

Configurable High and Low Ranges

The BEX-1000FT allows for configurable ranges, and will display multiple ranges of each gas component. The analyzer will simultaneously broadcast high and low ranges of gas components, ensuring you have an accurate measurement over the entire emissions spectrum, from very finite measurements all the way up to enormous gas concentrations.

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