BOB-1000FT
On-board Multi-Component Analyzer System

A&D Technology

Real-world vehicle exhaust testing based on FTIR technology

A&D Technology's on-board multi-component analyzer system, BOB-1000FT, is based on the FTIR (Fourier Transform Infra-Red) technology and has been designed for the continuous measurement of undiluted vehicle exhaust under real world conditions. The system provides optimized gas analysis methods for the different fuel types, including Gasoline, Diesel, CNG and other alternative fuels.

To fulfill today's and future emission 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 NO_2, which may have a significant influence on the SCR (DeNOx) catalyst.

Because the BOB-1000FT system allows for the simultaneous measurement of more than 30 gases at one sample point with a sample rate of up to 5 Hz, it is the ideal measuring device for testing these catalytic systems in the various combinations.

The list of measurable gases includes NO, NO_2, N_2O, NH_3, CO, CO_2, CH_4 as well as alcohols and carbonyls.

The A&D BOB-1000FT multi-component analyzer system has been designed for the continuous measurement of undiluted vehicle exhaust under real world conditions.

Benefits

- Low cost of ownership due to drift-free calibration and minimal maintenance requirements.
- Can be used for on-board testing under "real-world" conditions, and in a test cell environment where it can be moved easily between cells.
- 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 30+ regulated and unregulated gases at one detector
- Differentiated measurement of NO, NO_2, N_2O, and NH_3.
- Differentiated measurement of hydrocarbons
- Fast response, $T_{10\text{-}90}$ time approx. 1.5 seconds
- Integration of GPS, OBDII and weather data
- Video data can be time-aligned with measured data

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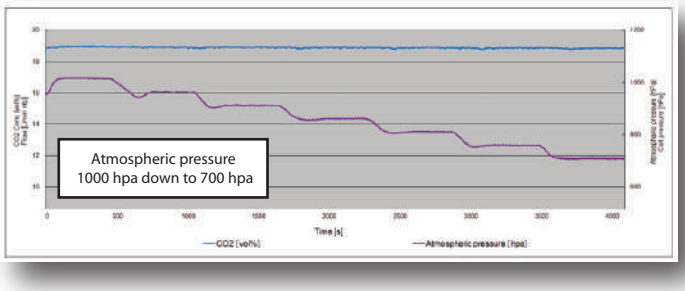
High-Altitude Pressure Control

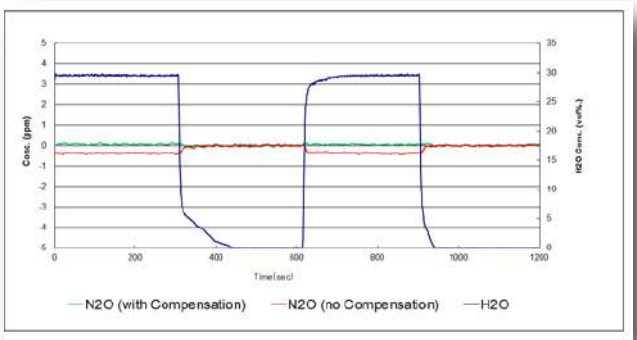
With the High-Altitude Pressure Control system, BOB-1000FT can be used even at high altitudes (≤ app. 4000 m/13,120 ft).



Changes in atmospheric pressure do not affect the CO_2 level.

Cross Interference Compensation

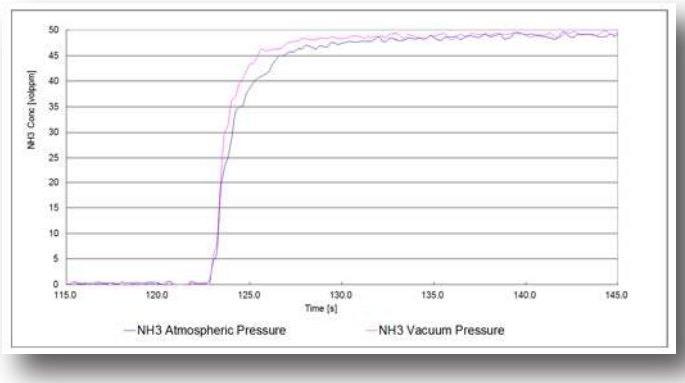
Measurements can be forged by the cross interference between different gases. The water content in the exhaust can have an especially significant influence on the measurements of certain gases (e.g. N_2O). The BOB-1000FT cross interference compensation minimizes these effects.



Changes in the H_2O concentration do not affect the N_2O measurement

Fast Response Time

The BOB-1000FT measures the exhaust under vacuum pressure, decreasing the adsorption and reducing the response time significantly.



Vibration Control

The BOB-1000FT is designed for use in harsh environments, including extreme vibration.

Americas

A&D Technology, Inc.
Ann Arbor, MI USA
Ph: +1 (734)973-1111
www.AandDTech.com

Europe

A&D Europe, GmbH
Griesheim, Germany
PH: +49 (0)6155 60 52 50
www.AandDEurope.com

A&D Europe - UK
Abingdon, Oxon, UK
PH: +44 (0)1235 550 420
www.AandD-eu.net

Asia

A&D Technology Trading Co.
Shanghai, China
PH: +86 (0)21-33932340
www.AandDTech.com

A&D Company, Ltd.
Tokyo, Japan
PH: +81 (0)3 5391 2753
www.AandD.co.jp

Australia

A&D Australasia Pty Ltd.
Kensington, VIC, Australia
PH: +61 (0)3 9372 1522
www.andaustralasia.com.au