OPSIS®

opsis.se

Ambient
Air Quality Monitoring

Benzene Monitoring in Refineries

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Ambient

Air Quality Monitoring

Benzene Monitoring in Refineries

To monitor benzene around the complete fence of a refinery can be difficult. Refineries are placed on a large area, often surrounded by other industrial activities. Thousands of small emission sources will contribute to the total air quality. The emission sources are unknown both to its location and emission strength. Sources of emissions can also be located outside the refinery.

Despite the difficulties, new legislation requires all refineries to install and manage fence-line monitoring of benzene. If a concentration of 9 µg/m^3 or higher will be detected, actions have to be made to reduce the emissions.

OPSIS UV DOAS technology provides the refineries with a monitoring system that is perfectly suited for the task. The OPSIS UV DOAS technology uses a beam of light to detect the concentration of benzene. The light beams can be placed on 4 to 6 locations thus covering the complete fence-line. Fast response time of the analyser, combined with a meteorological monitoring station, allows the user to calculate both the location and the strength of the emissions.

RETURN ON INVESTMENT

The cost for finding emission sources will be reduced, based on the fast response of the analyser. The cost of maintaining an OPSIS UV DOAS system is small compared to manual point analysers.

TEST AND APPROVALS

The OPSIS UV DOAS system is approved according to EN 15267 with a monitoring range of 0-10 µg/m^3. The system is ETV verified by U.S. EPA.

THE OPSIS PRODUCT PORTFOLIO

OPSIS product portfolio includes monitoring systems for gases based on open-path technology using DOAS, FTIR and TDL, measurement of PM_{10} and $PM_{2.5}$ using beta attenuation, and environmental emissions inventory and modelling using OPSIS Enviman software. Data logging systems and data presentation from OPSIS run on the Internet as well as in dedicated computers.

For further information, please visit www.opsis.se.

An OPSIS fence-line system installation

A fence-line emitter

New legislation in the U.S.A. requires all refineries to install and manage fence-line monitoring of benzene.

PERFORMANCE DATA

(typical data which may vary depending on application)

Compound	Max. measurement range (500 m path)	Lowest measurement range according to EN15267	Min. detectable quantities (monitoring path 500 m, measurement time 1 min.)
AR500 DOAS Analyser			
Benzene	0–2000 µg/m³	10 µg/m³	0.5 µg/m³

Accuracy
Better than 2% of measured value or equal to the detection limit (whichever is greater).

Span drift
Less than 2% per year.
Please, refer to QAL1 documents.

Zero drift
Less than 2% of measurement range per year.
Please, refer to QAL1 documents.

Linearity error
Less than 1% of measurement range.

The monitoring paths can cover the complete fence of a refinery.

FACTORY TESTED SYSTEMS
WITH DELIVERY ON TIME.

Ambient Air Quality Monitoring by OPSIS

Real-time monitoring

Cost-effective

High accuracy

Representative path-integrated data

Gas calibration only once per year

Low energy consumption

Operates with a minimum of maintenance

ETV verified by U.S. EPA

EN 15267 approved

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Please contact your OPSIS supplier to discuss your particular system requirements, including the compounds you wish to monitor. Separate product and other industrial application sheets are available. Specifications subject to change without notice.

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