OPSIS®

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Continuous Emissions Monitoring
and Process Control

M800 Dilution/DOAS System

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Continuous Emissions Monitoring
and Process Control

M800 Dilution/DOAS System

The OPSIS M800 dilution system provides ships with a cost-effective solution that will monitor multiple gases at multiple locations.

The dilution extractive method uses dry and clean air to dilute the sample from the stacks, providing a clean sample that is passing through a measurement cell where the DOAS light path is installed. The light is connected to the DOAS multi-gas analyser via a fibre optic cable. By introducing a sample switch, multiple ducts/stacks can be measured by the same analyser.

DATA MANAGEMENT FEATURES

- All data stored in the analyser,
- Automatic backup to the web logger,
- Automatic transfer of data to FTP site,
- Access to system and remote control via the Internet,
- Monitoring of all system and control parameters,
- Automatic alarms, and
- Reporting software as an option.

RETURN OF INVESTMENT

The investment for an OPSIS M800 system is low compared to the operating/maintenance cost for hot wet extractive systems, as heated sample lines are not required. With the multipath capability, one single OPSIS analyser can monitor all stacks on a ship, thereby minimizing the investment.

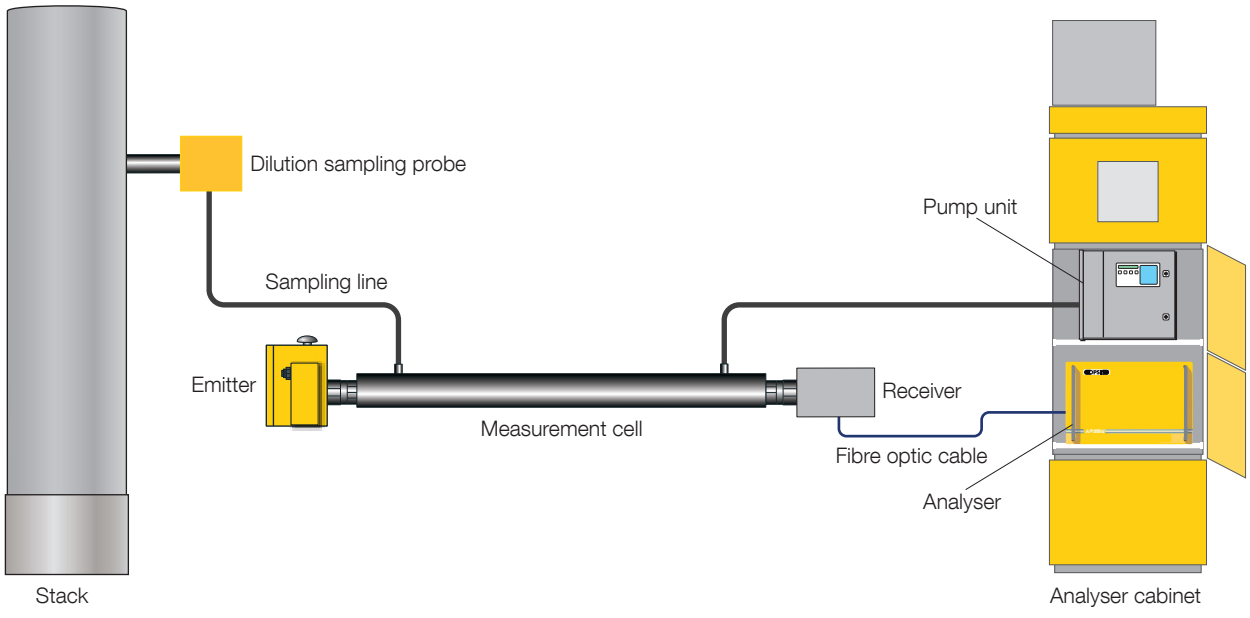
TEST AND APPROVALS

OPSIS M800 is tested and type approved by DNV-GL, Bureau Veritas, Lloyd's Register, and Rina, for installation on ships/sea vessels. OPSIS UV/FTIR systems are also approved for land installations by organizations such as TÜV, MCERTS, and U.S. EPA.

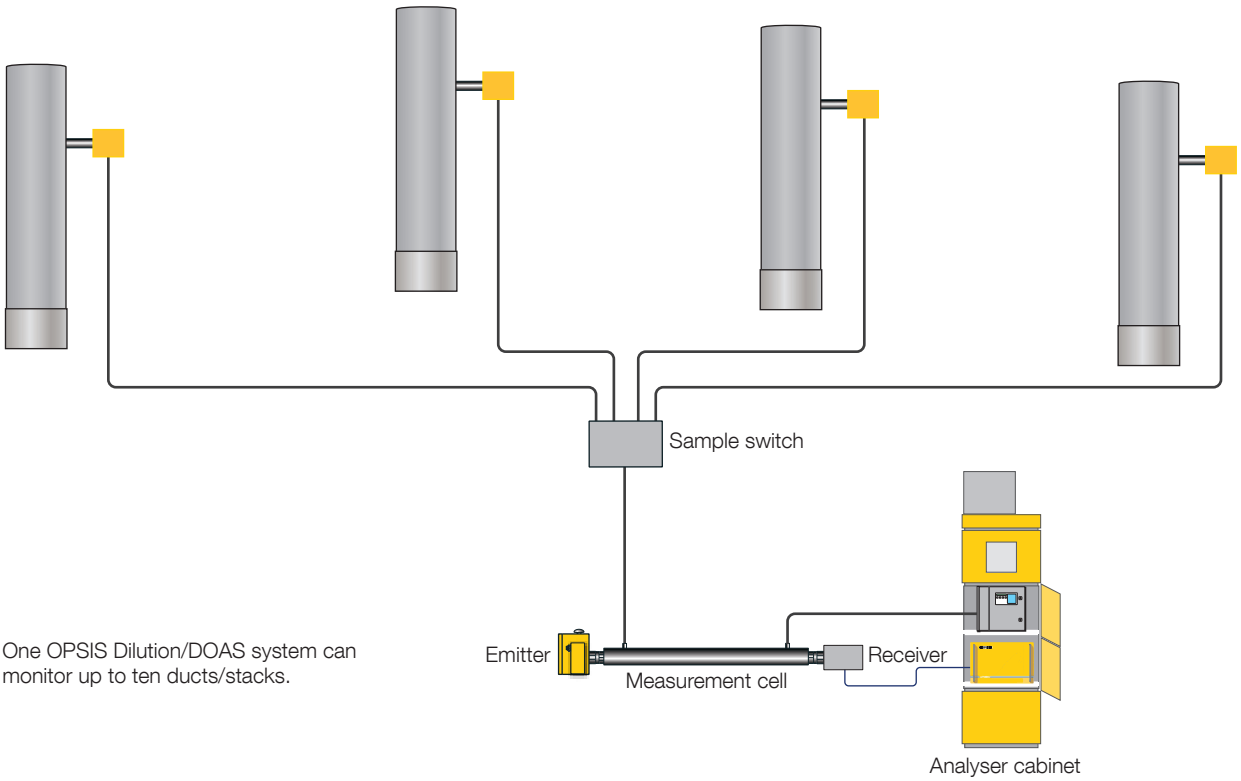
For further information, please visit www.opsis.se.

SYSTEM OVERVIEW

An OPSIS M800 Dilution/DOAS system layout



MULTI-STACK MONITORING SYSTEM



One OPSIS Dilution/DOAS system can monitor up to ten ducts/stacks.

PERFORMANCE DATA

(typical data which may vary depending on application)

Compound	Max. measurement range	Lowest measurement range according to EN15267	Min. detectable quantities (monitoring path 1 m, measurement time 5 sec.)
UV/IR DOAS Analyser Models AR600M / AR602Z / AR620M			
NO	0–2000 mg/m³	0–150 mg/m³	0.5 mg/m³
NO_2	0–2000 mg/m³	0–20 mg/m³	0.5 mg/m³
SO_2	0–5000 mg/m³	0–75 mg/m³	0.5 mg/m³
NH_3	0–1000 mg/m³	0–10 mg/m³	0.5 mg/m³
CO_2	0–100% Vol.(1)	0–20% Vol.	0.2% Vol.
FTIR DOAS Analyser Models AR650M / AR650/N / AR650/NHF			
CO	0–10000 mg/m³	0–75 mg/m³	2 mg/m³
CO_2	0–100% Vol.	0–20% Vol.	0.1% Vol.
CH_4	0–10000 mg/m³	0–20 mg/m³	0.5 mg/m³
H_2O	0–100% Vol.	0–30% Vol.	0.1% Vol.

- Additional gases can be measured.

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.

A DOAS monitoring system.

FACTORY TESTED SYSTEMS
WITH DELIVERY ON TIME.

Continuous Emissions Monitoring and Process Control by OPSIS

Monitoring of ship emissions using UV and FTIR reference methods

Cost-effective multi-stack/multi-duct monitoring

Operates with a minimum of maintenance

Gas calibration only once per year

Certified by DNV-GL, Lloyd's Register, Rina, and Bureau Veritas

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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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