Continuous emission monitoring

OPSIS M800
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Optical non-contact monitoring for all relevant gases

Photo by Sylvie Fraser
OPSIS M800 System

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The DNV certified OPSIS M800 System is a scrubber exhaust monitoring system based on a non-contact method, using an optical measurement path operating across the duct. The system measures all relevant gases such as NO, NO₂, SO₂, CO₂, CO, NH₃, CH₄ and many more with just one analyzer, making the maintenance part very small.

Upcoming regulations
The global environmental impact from ship emissions is significant and the International Maritime Organization (IMO) is enforcing new regulations in order to reduce the emissions.

In 2015, ships passing through Environmental Control Areas (ECA) must use low sulfur fuel (0.1% S) or install scrubbers to reduce the SO₂ emissions. Ship owners using scrubbers must monitor SO₂ and CO₂ in the scrubber exhaust and the best way to do that is by using Consilium’s OPSIS M800 System.

Optical measuring - no sampling involved
Consilium’s DNV certified OPSIS M800 System for continuous emission monitoring is based on a cross-stack, non-contact method, using an optical measurement path operating across the duct. Thanks to this cross-stack method, the system is perfect for the harsh environments after a scrubber as it doesn’t require any contact at all with the gas. No sampling is required, simplifying operation and maintenance.

One analyzer for all types of gases
The OPSIS M800 System measures all relevant gases, such as NO, NO₂, SO₂, CO₂, CO, NH₃, CH₄, with just one analyzer and is easily updated to additional gases by a simple software upgrade. Fully integrated monitoring of Particulate Matter (PM) and/or opacity is optional.

Fast and accurate monitoring via fiber optic cable
As the OPSIS M800 is an optical measuring system, no pumps, filters or heated lines are required.

A light beam is sent across the duct or stack and the captured light is sent to an analyzer through an optical fiber cable. The analysis is performed using UV/IR DOAS (Differential Optical Absorption Spectroscopy), a well-proven technique, ensuring accurate measurements and results.

The response time is very fast, enabling monitoring each measuring point accurately within seconds, meeting and exceeding the requirements stipulated (0.0035Hz).

Cost efficient solution
As one analyzer can be connected to several paths, using an optical multiplexer, the OPSIS M800 is a very cost-effective solution for up to 12 measuring points. With this multipath capability, one single Opsis analyzer can monitor all scrubber systems on a ship, minimizing the investment.
Low maintenance - low lifetime cost
Thanks to the non-sampling method and the optical monitoring technique, installation is easy, the energy consumption is low and the maintenance minimal. In addition to this, the system is self-operating, with a high reliability, ensuring a very low lifetime cost.

Monitoring systems for more than 15 years
The OPSIS monitoring systems have been installed all over the world, many of them with more than 15 years trouble-free operation. The system has proven to be the most reliable and cost-efficient solution possible for continuous emission monitoring.

Opsis M800 measures all relevant gases with an optical, non-contact method, monitoring all scrubber systems on a ship with just one analyser.

Advantages
- No sampling, non-contact method
- One analyser for multiple stacks and all relevant gases
- Reliable with low maintenance
- Internationally tested and approved
- Cross stack monitoring - no contact with smoke
- Low life cycle cost
- Time stamped and geographical position stamped data for compliance
- Real time data and historical data stored on tamper proof logger
- Customized reporting system
- Fast response time
- Modbus connectivity
- Web Interface
- DNV certified

Data Management Features
- All data stored in analyzers
- 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
- Reporting software as an option