Brochure | Danfoss IXA

Advanced continuous emission monitoring for MARPOL compliance

MES 1001 MARPOL for continuous monitoring of NO_x, SO_2 and NH_3



Marine regulatory compliance calls for reliable and compliant solutions

The increasing global focus on the environment and energy efficiency are the key drivers for our NO_x, SO_2 and NH_3 analyzer, MES 1001 MARPOL.

The analyzer has been developed with the purpose of enabling the maritime industry to create transparency of their emissions and turn this information into competitive advantages, through favorable total cost of ownership.

Certified under the EU Marine Equipment Directive (MED), the MES 1001 MARPOL is approved for permanent onboard NO_x monitoring in accordance with NO_x Technical Code 2008.

Best-in-class solution
for safe performance

At Danfoss IXA we work together with all relevant class societies. This ensures that our products live up to the leading standards in the industry as well as ensuring the design quality.



Comply with environmental regulations

In an effort to reduce NO_x emissions further, the Tier III requirements have been established for vessels keel laid after 2016 by The International Maritime Organization (IMO).

The Tier III requirements have been established for vessels operating in Emission Control Areas (ECA). More engine manufacturers and vessel owners are looking towards Selective Catalytic Reduction (SCR) as a means to reduce NO_x emissions.

The Danfoss IXA NO_x, SO_2 and NH_3 analyzer, MES 1001 MARPOL, helps you ensure SCR performance and enables optimization of the SCR process.



Selective Catalytic Reduction

The traditional approach to controlling Selective Catalytic Reduction (SCR) is by means of the engine load signal, where the amount of urea injected into the SCR is controlled as a function of the load.

An alternative and cost-efficient approach is to install a marine emission analyzer after the SCR and feed back the NO_x signal to the urea dosing controller to control the dosing of urea more accurately and obtain a better transient performance as the regulation is based on the exhaust out of the SCR. In addition, the analyzer can measure an ammonia slip and thereby issue a warning, which will prevent damage to equipment further down the stack.

Danfoss IXA specializes in emission monitoring solutions that provide fast and accurate measurements, which is vital in ensuring optimum use of the SCR.

MES 1001 MARPOL
NO_x, SO_2 and NH_3 analyzer

MES 1001 MARPOL NO_x, SO_2 and NH_3 analyzer

MES 1001 MARPOL measures NO_x, SO_2 and NH_3 gases directly in the exhaust pipe withstanding temperatures up to 500°C. The analyzer can send data updates every second and is zero point self-calibrating – this means almost no maintenance and no special training. It is easy to install, requiring only pressurized air, data cable and power.

Key benefits

01

MARPOL Compliance

TIER III MARPOL compliance made easy through simplified reporting.

02

On board calibration technology

No need for on-board service technicians which reduces lifecycle OPEX by saving cost for technicians travel, working hours and downtime.

03

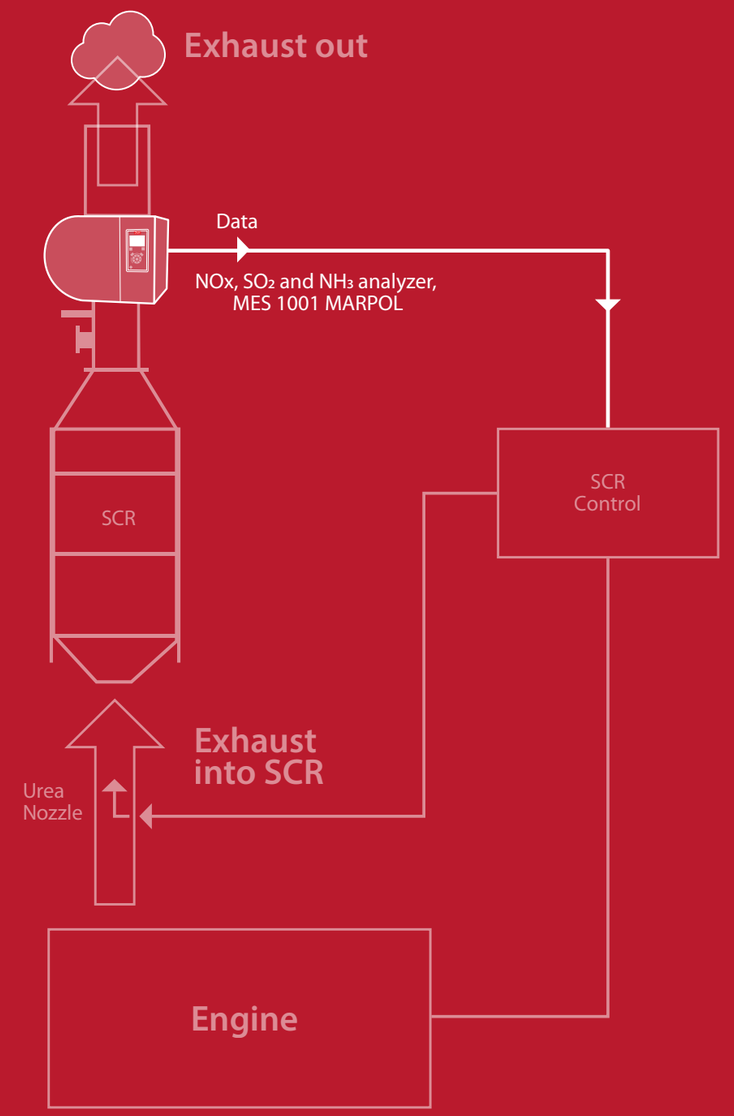
Easy installation and maintenance

Single unit setup with minimal configuration requiring only power, air and data. Simple maintenance performed by crew; replacement of air filters, and lamps, and cleaning of optics.



Dimensions	W922 x H375 x D284 (mm)
Weight	33 kg
Mounting location	Low pressure side of engine exhaust system (after turbocharger)

Measurement that keeps you in control



The MES 1001 MARPOL is ideal for monitoring NO_x and NH_3 in maritime SCR applications.

The analyzer can monitor NO_x emissions in open-loop SCR systems as well as in closed-loop SCR systems. In the latter case, the fast response time of the analyzer makes it suitable for feedback of the NO_x signal to the SCR control unit for fast and optimum dosing of urea.

With the ever-increasing number of SCR systems being installed on vessels worldwide to comply with the Tier III regulation, the monitoring of the ammonia becomes more and more important. An unmonitored ammonia slip is not only damaging the environment, it can also over time damage the exhaust system of the vessel with costly repairs as consequence.

Last but not least, the ammonia slip is money out the exhaust stack as the dosed urea is not utilized in the optimum way. The MES 1001 MARPOL operates in both high and low sulfur applications.

Accessible for visualization platforms

Experience simplified reporting as emission values are now conveniently accessible on CII index visualization platforms.

MARPOL compliance made easy:

Technical file modifications and connections simplified. Achieving MARPOL compliance is simplified through streamlined technical file modifications and connections. Ensure regulatory adherence effortlessly.

Applicable for Norwegian NO_x Fund Compliance. Simplify your reporting process with our solution, tailored to ensure compliance with Norwegian NO_x Fund requirements.



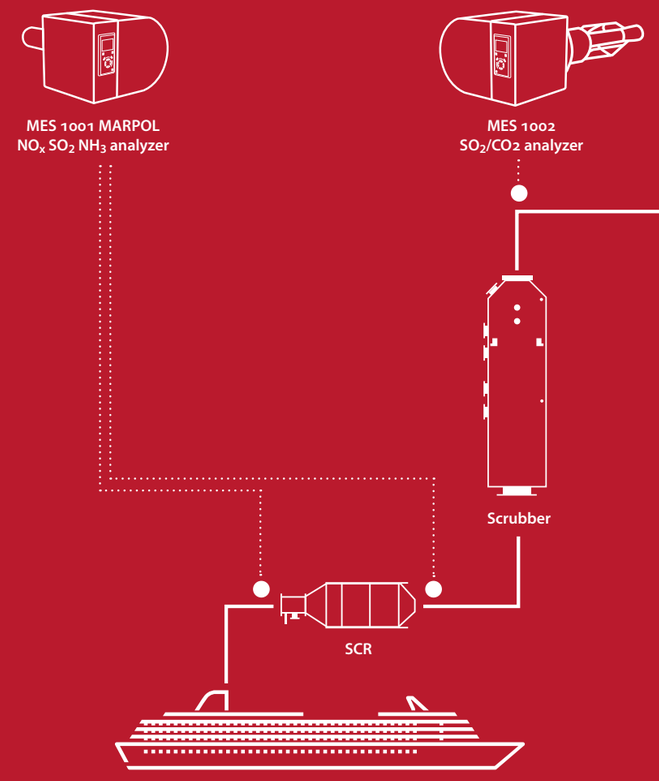
One solution provider of emission monitoring

Danfoss IXA is one solution provider of emission monitoring.

This covers monitoring and gathering of all emission data to be used for compliance, control, documentation, and optimization of processes in various applications throughout the engine room. This is done through platforms provided by the Danfoss IXA product portfolio.

All Danfoss IXA products together provide you with the best solution for emission monitoring that is easy to install, operate and maintain.

Danfoss IXA is world class provider of emission monitoring solutions.



← Scan QR code

Discover more about MES 1001 MARPOL on our website



MES 1001 MARPOL Measurement ranges

NO_X	0 – 2000 ppm
NH_3	0 – 100 ppm
SO_2*	0 – 1000 ppm

* Optional

Explore our solutions
danfoss-ixa.com

One solution provider of emission monitoring in the maritime industry

Danfoss IXA A/S, part of the Danfoss Group, is a leading player in certified marine emission monitoring solutions. We develop innovative analyzers and systems that precisely and continuously measure climate parameters and environmentally harmful gases, providing documentation of regulatory compliance and essential input for energy optimization.



MES 1001
NO_x, SO_2 and NH_3 analyzer



MES 1001 MARPOL
NO_x, SO_2 and NH_3 analyzer



MES 1001 Ammonia
NH_3, NO_x analyzer



MES 1002
SO_2, CO_2 analyzer

Engineering a more sustainable shipping industry

Maritime expertise across divisions

To serve the marine industry in the best possible way, several Danfoss divisions bring a particular range of technical know-how and benefits on board. On their own, each division is at the forefront of its field with industry-leading insight and innovation. Working together, the Danfoss divisions form a comprehensive array of components that help major ships around the world ashore safely and on-time.

Maritime Products with High Standards

Danfoss IXA's products are designed for the maritime environment and comply with industry standards. Thorough testing and third-party approvals ensure high technical standards.

Further information available on website: danfoss-ixa.com

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