

MES 1001 Ammonia NH₃, NO_x CEMS for NH₃-ready engines

MES 1001 Ammonia is a robust NH₃, NO_x CEMS designed for exhaust systems on ammonia-fuelled marine engines, ensuring accurate and reliable monitoring of NH₃ and NO_x emissions for optimal performance and regulatory compliance.

KEY FEATURES



MES 1001 Ammonia represents a significant advancement in sensor technology for optimizing Ammonia-ready engines and SCR systems and ensuring crew safety.

AUTOMATIC REFERENCE CALIBRATION: Preventing zero- and span-drift with Danfoss IXA patented probe system.

EASY OPERATION: User-friendly interface simplifies operation and reduces training needs.

HIGH ACCURACY: Advanced sensor technology ensures accurate and reliable performance, reducing downtime and replacement costs.

FAST RESPONSE TIME: The In-Situ CEMS ensures real-time emission measurements.

EASY MAINTENANCE: Cost-effective solution with simple maintenance performed by crew; replacement of air filters and lamp, and optics cleaning.

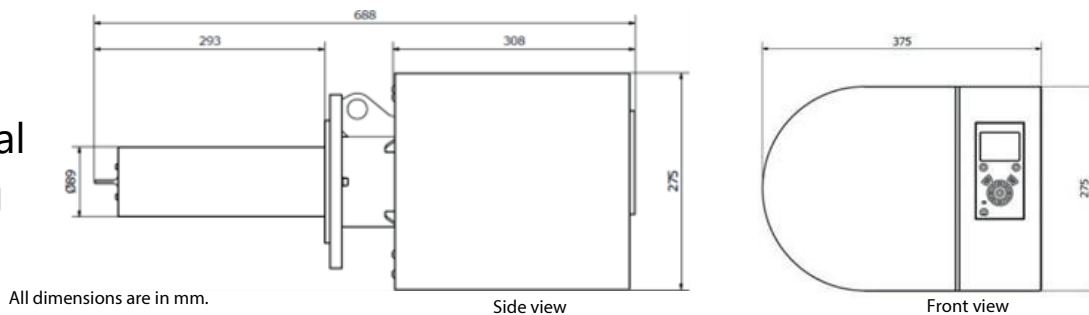
EASY INSTALLATION: Single-unit setup with minimal configuration and easy connection (only power, air, and data).

LOW COST OF OWNERSHIP: Efficient operation, extended lifespan, and reduced maintenance overall expenses.

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Technical drawing



Technical specifications

Parameter	Description
General	
Application	In Situ Emission Analyzer
Technology	UV absorption spectroscopy
Mounting flange	Circular, bolted connection DIN 2633, DN100, PN16
Mounting location	Low pressure side of engine exhaust system
Supported gases	
NH ₃	0 – 1000 ppm
NO _x *	0 – 2000 ppm
Operational Exhaust Gas Temperature	
Maximum	500 °C
Recommended minimum	200 °C**
Performance	
Data update rate	1 second
Output resolution	1 ppm (digital)
Response time	< 10 seconds (T ₉₀)
Environmental	
Operating ambient temperature (Analyzer)	0 – 55 °C
Storage temperature	-25 – 85 °C
Ingress protection	IP65
Humidity	95% RH
Max SO ₂	100 ppm
Inputs and outputs	
Power	24 VDC
Ethernet	10 BASE-T/100 BASE-TX
RS-422	Ship GPS input Supported protocol: NMEA 0183

Analog output	4 x 4 – 20 mA
Digital outputs	2 (relay controlled)
Digital inputs	2 (relay controlled)
Compressed Air	Service air from ship
Compressed Air	
Supply	5,5 – 9 bar, max. 145 l/min @ 1 bar
Quality***	A filter must be installed before the analyzer to ensure that air delivered to the analyzer is compliant with ISO 8573-1:2010 [1:7:2] at all times.
Power	
Power supply	24 VDC ± 25%
Power consumption	< 75 W
Dimensions	
Size (H x W x D)	688 x 375 x 275 mm (incl. probe)
Weight	33 kg
Approvals	
Marine type approval	DNV

* The analyzer can display the NO_x in the range 0 – 2000 ppm, which is calculated as NO + NO₂. Please note that the maximum level NO_x is defined by the maximum levels for NO and NO₂ which are 1500 ppm and 500 ppm respectively.

** MES 1001 Ammonia provides accurate NH₃ measurement during cold engine start and low-temperature operation. To minimize the risk of analyzer fouling and maintain the specified maintenance interval, a typical exhaust gas temperature above 200 °C is recommended.

*** To ensure your analyzer stays operational we strongly recommend using our filter and accessories as an essential part of the installation and maintenance.