Advanced system for emission monitoring in maritime industry
We are on your wavelength
**Measurement solution GAA630-M**

We are on your wavelength

**Maritime industry – background**

The International Maritime Organization (IMO), has introduced regulations to prevent air pollution from vessels both globally and within designated sea areas, known as Emission Control Areas (ECAs). The ECAs are geographical locations and are defined as: North Baltic Seas, all North American Coasts & Caribbean coastal areas. Other areas are under evaluation by IMO.

These regulations require control on SO₂, CO₂, and NOₓ emissions. The Maritime Industry is facing challenges to either adopt new technologies such as exhaust gas cleaning systems (EGCS) or use of low sulfur residual or distillate marine fuels to comply with the ECA requirement. Engine manufacturers and ship owner are challenged to reduce NOₓ emissions. The new set limits in the ECAs can be achieved only with clean fuels or by making use of DeNOₓ abatement systems.

Ship yards, ship owners and marine ECGS manufacturers are looking to equip vessels with continuous gas analyzers for Continuous Emission Monitoring (CEM) to measure all the regulated pollutants (SO₂, CO₂, NOₓ) and to optimize fuel consumption (CO, O₂) on board at the same time.

**GAA630-M Emission monitoring system**

The GAA630-M is based on a dry and extractive approach. The system is designed as a two housing solution. The continuous gas analyzers are engineered to fit in a small footprint IP65 compact cabinet, while the sampling system is mounted in a separate IP65 enclosure. The design complies to IMO MARPOL ANNEX 14 Res. MEPC 177 (58) (NTC) & IMO MARPOL ANNEX 1 Res. MEPC 259 (68).

The sampling system is based on a continuous extraction cooling device, removing the moisture from the sample gas. Both cabinets are equipped with antivibration devices to reduce vibrations effects, maximize measuring performance and extend lifetime of the analytical and pneumatic components.

**Unique two housing system design**

- IP65 protection degree cabinet, also suitable for outdoor installations
- Type approval ENV2
- Operating temperature range 5 to 55 °C
- Cabinet cooling system

**Adaptable data communication – compatible to all advisory tools**

- Data report via ABB EMMA and ABB OCTOPUS and all advisory tools
- Unlimited access to analytical data
- Ethernet with TCP/IP protocol for direct connection to existing PC networks or control systems
- OPC interface for direct integration into centralized process control equipment
- Modbus protocol via Ethernet and serial port, also for Windows applications

**Worldwide service availability**

- System based on ABB’s AO2000 gas analyzers
- Large ABB service network can operate on both land and off-shore installed analyzers
- ABB analyzers have an installed base of more than 100,000 units and are serviced by a global network of ABB certified engineers
- Remote service while sailing on open sea
Advance solution for emission monitoring in maritime industry with GAA630-M

Type approved emission monitoring system for maritime industry
- Approved system as per specifications by Lloyd’s Register
- Specifically designed to measure emissions at the scrubber outlet
- Capable to measure additional components (e.g. O₂ and CO) helping ship owners with combustion optimization
- Ability to report SO₂/CO₂ ratio directly
- Internal adjustment cells, filled with reference gas, can extend calibration interval up to one year
- Cost effective – On-line monitoring of up to two gas streams in parallel
- Suitable to measure CO₂ also at scrubber inlet in highly corrosive streams

Compliant to
- IMO MARPOL ANNEX 14 Res. MEPC 177 (58) (NTC)
- IMO MARPOL ANNEX 9 Res. MEPC 259 (68)

Proven analyzers and International Maritime Organization (IMO) referenced technology
- Non dispersive Infrared technology for measurement of SO₂ and CO₂ as referenced by the IMO
- Proven UV technology for NO and NO₂, comparable to reference method
- Electro-chemical sensor to measure O₂
- Reliable technology proven in thousands of industrial installations
- Well proven and IMO MARPOL referenced extractive gas sampling approach

Certified measurement according IMO MARPOL
- Non dispersive Infrared (NDIR) technology for SO₂ and CO₂ as mandated by the IMO
- Electro-chemical sensor technology for O₂ as mandated by IMO

We are on your wavelength
GAA630-M is an advanced CEM system solution for continuous gas analysis on board of vessels, specifically designed, certified and type approved for maritime installations. The GAA630-M system includes all necessary components, such as gas sampling probe, heated sample lines and sample conditioning. Based on the proven Advance Optima gas analyzer technology, GAA630-M provides a certified measurement of SO₂/CO₂ ratio and NOₓ for emission monitoring purposes. O₂ and CO is measured for combustion efficiency.

Providing the best technology in measurement, data connectivity, reliability and service is ABB’s daily business. World-wide available maintenance teams are trained and certified to support you with first-class service. Benefit from our world wide technical service support network and fast support at any time and in any place.

Measurement made easy
ABB’s Measurement Products business unit is among the world’s leading manufacturer of continuous emission monitoring (CEM) systems. With thousands of experts around the world and high-performance technology, ABB’s team is dedicated to make measurement easy for its customers.

ABB operates in around 100 countries globally and lives to serve your marine needs.