

## Statement of Compliance

This is to confirm that the undernoted product has been tested in accordance with the relevant requirements of MEPC.259(68) in respect of emission testing.

### Emission Monitoring System GAA610-M Series

**Company**

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#### Product Description: Emission Monitoring System

**Type** **GAA610-M Series**  
Measuring CO<sub>2</sub> at the EGCS inlet and SO<sub>2</sub> at EGCS outlet  
Measuring SO<sub>2</sub> and CO<sub>2</sub> at the EGCS outlet at several stacks

**This is to Confirm:** The Emission Monitoring System is found to be suitable as a continuous monitoring system of:

- SO<sub>2</sub> and CO<sub>2</sub> according MEPC.259(68)

The functional testing has been demonstrated under surveillance and to the satisfaction of DNV GL in accordance with MEPC.259(68).

Requirements of MEPC.259(68) regarding SO<sub>2</sub> loss have been observed.

According to MEPC259.(68), Appendix I, 6(e), both gas concentrations (CO<sub>2</sub> and SO<sub>2</sub>) will be measured at the same residual water content in the sample (dry) and therefore no dry-to-wet conversion factors are required in the calculation of the CO<sub>2</sub>/SO<sub>2</sub> ratio.

The included "AO2000-Uras26" is found to be in compliance with the requirements of MEPC.259(68), Chapter 6 "Emission Testing" as well as with relevant requirements of Revised MARPOL Annex VI and NO<sub>x</sub> Technical Code 2008 and meets the following requirements:

- |   |                        |                                      |
|---|------------------------|--------------------------------------|
| - | Principle of detection | MEPC.259(68), 6.2                    |
| - | Accuracy               | NTC 2008; Appendix III, 1.6          |
| - | Precision              | NTC 2008; Appendix III, 1.7          |
| - | Noise                  | NTC 2008; Appendix III, 1.8          |
| - | Zero and span drift    | NTC 2008; Appendix III, 1.9 and 1.10 |
| - | Calibration curve      | NTC 2008; Appendix IV, 5.5.1         |
| - | Interference effect    | NTC 2008; Appendix IV, 9             |

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### Technical Data

Sample Handling Components		
Probe + Filter Unit	JES-301L / ABB PFE2 basic	
Sample Line	Heated	
Feeding Unit	ABB SCC-F	
Cooler	ABB SCC-C	
Analyzer Modules		
NDIR SO <sub>2</sub>	AO2000-Uras26 MarID(3500 or 3355)	0 – 250/500 ppm
NDIR CO <sub>2</sub>	AO2000-Uras26 MarID(3500 or 3355)	0 – 20 Vol%

### This is to Note

1. In order to completely fulfill the requirements of MEPC.259(68) for “continuous emission monitoring” additional equipment (e.g. data recording) will have to be installed.
2. In case ambient temperature is above 35°C the system may only be operated in an air conditioned cabinet.
3. The emission monitoring system shall be installed, calibrated and operated in compliance with the operator's manual OI\_GAA610-M\_EN.
4. The calibration interval could be prolonged up to one year without exceeding the zero and span drift according NTC 2008, Appendix III, 1.9 and 1.10, if the daily automatic zero point and span check with internal gas-filled cells is carried out.

### Documents:

- Operators Manual OI\_GAA610-M\_EN (41/23-800-03-EN)
- DNV GL No.: 30652-15 HH, Confirmation of Compliance for ABB Uras 26
- Report TP/ Emission Monitoring System ACX/ MEPC-EN; 01/2017  
“Report on SO<sub>2</sub>/CO<sub>2</sub> test measurement on marine diesel engine with ABB’s Gas Analysis System ACX”
- DNVGL Type Approval Certificate No: TAA00002EV, Revision No: 1
- GAA610-M Advanced emission gas monitoring system  
DS/GAA610-M-EN

### Remark

The compliance with relevant requirements of the DNV GL rules for classification – Ships, offshore units, and high speed and light craft has been type approved by DNV GL, Certificate No: TAA00002EV.