Certificate No: LR2008137TA
Issue Date: 11/08/2020
Expiry Date: 10/08/2025

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**Bühler Technologies GmbH**
Address	Harkortstrasse 29, Ratingen, 40880, Germany
Type	Gas analyser units
Description	Gas Conditioning Products designed to be used in exhaust gas sampling- and conditioning systems to comply with the MEPC.259 and NOx Technical Code 2008 (NTC 2008).
Trade Name	GAS222.15-MA, CU-EMA+, SCS-EMA+
Application	Marine, offshore and industrial applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register Type Approval System, Test Specification Number 1 - March 2019.
Specified Standard	Manufacturer's specification IACS unified requirements E10 (Rev.7 Oct 2018)
Ratings	**GAS222.15-MA** Sample Gas Probe Technical Data: Probe gas inlet temperature: max. 200 °C Ambient temperature: -20 to +60 °C Self-regulating heater: +180 °C Low temperature alarm: Switching current max. 4A (switch-back point <140°C) Electrical data: 115/230 V, 50/60 Hz, 400 W

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CU-EMA+ Cooling Unit
Technical Data:
Ambient temperature: +5 to +50 °C
Normal cooling capacity: 110 kJ/h
Electricaldata: 115/230 VAC, 50/60 Hz, 16 A

SCS-EMA+ Sample Conditioning Unit
comprising following components:
TC-Kit Sample Gas Cooler
CPdouble Peristaltic Condensate Pump
P1.1 Sample Gas Pump
AGF-PV-30 Fine Mesh Gas Filter
SM-6 Flow Meter

Additional Tests	GAS222.15-MA:	Enclosure test IP66 Dry heat test (70°C/16h) Low temperature (-25°C/16h)
Other Conditions	The complete system in which the components are installed has to meet the requirements of MEPC.259(68).	

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document No. HTS/ETS 40304-20/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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