Certificate No: LR25144364TA
Issue Date: 12/11/2024
Expiry Date: 11/11/2029

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 **Tangshan Worldwide Ship Equipment Co., Ltd**

Address No.1 Xiangjiang Avenue Luannan Zuidong Industry Zoon, Tangshan, 063000, China

Type Exhaust Gas Systems

Description The system consists of:
• Analyzer cabinet(IP54) with gas analyser ULTRAMAT 6, or ULTRAMAT 23, or Gas board 3000 UV
• Sample system, with JY-PT120 or GAS 222.15-MA type of probe(220V AC, 50/60Hz, +180oC, self-regulated), IP54

Trade Name WD-B-CEMS

Application Marine applications for use in environmental categories ENV1 and ENV2 in the "General Power Distribution Zones" as defined in LR Type Approval System Test Specification No. 1 July 2024.

Specified Standard Manufacture's specification.

Ratings Power Supply: AC 230V, 50/60Hz

Component	Sensor type	Measuring range
SO2	NDIR or NDUV	0~50ppm(Min.);0~1000ppm or 0~200ppm(Max.)

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Ashwinikumar Mhamal

Electrical & Control Technical Manager - Africa, Middle East & India to Lloyd's Register Marine and Offshore India LLP

Units 1702-1704, 17th Floor (Level-13), Building Q2, Aurum Q Parc; Gen 4/1 TTC, Thane-Belapur Road, Ghansoli, Navi Mumbai, 400710, India

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CO2	NDIR	0~5 vol.% (Min.); 0~15 vol.% or 0~20vol.%(Max)

Other Conditions

1. The system type approval is limited to continuous monitoring of SOx emissions, as defined in IMO Resolution MEPC.340 (77).
2. Data recording and processing device not covered by this certificate.
3. In order to completely fulfil the requirements of MEPC.340 (77) for "Continuous Emission Monitoring", additional equipment (e.g. sampling tubes, gas dryer, data recording etc.) will have to be installed. Requirements of MEPC.340 (77), chapter 6.6 and 6.7 regarding SO2 losses have to be observed.
4. The system shall be installed, calibrated and operated in compliance with the manufacturer's instructions.
5. In justified cases where the CO2 concentration is reduced by the EGC unit, the CO2 concentration can be measured at the EGC unit inlet, provided that the correctness of such a methodology can be clearly demonstrated.
6. Software has been tested to an extent required to verify correct functions during type approval testing.

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 Marine and Offshore India LLP of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document TSO-24-024350-E-02 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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