Certificate No: LR21271321TA
Issue Date: 27/06/2021
Expiry Date: 26/06/2026

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	**Elite Marine Corp.**
Address	No.1 Xin Hai Road, Xingfu Industrial Zone, Gangzha District, Nantong, 226012, China
Place of Production	Elite Marine Corp. No.1 Xin Hai Road, Xingfu Industrial Zone, Gangzha District, Nantong, 226012, China
Type	Filtration and UV Ballast Water Management System
Description	Ballast water management system (BWMS) using Filter and UV Light, combined with Ultrasound (US) technology
Trade Name	Seascape
Application	Marine applications subject to the ballast water treatment system complying with LR Rules and Regulations for the particular service.
Specified Standard	LR Rules and Regulations for the Classification of Ships, July 2020
Ratings	System Design Pressure: 10 bar System Working Temperature: -5 ~ +65 ˚C Treatment Rated Capacity: 80/150/200/300/400/500/600/800/1000/1200/1600/2000/2400/3000/4000/5000 m^3/h

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Xiaodong Zhang

Lead Specialist and Section Leader for Engineering Section to Lloyd's Register Classification Society (China) Co Ltd

19th Floor, 550 Yan An dong Road, Shanghai, Huangpu District, China

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System Main Components:
1. Self-cleaning Filter (35μm filter precision)
Model:EMSLQ-200l/250l/300l/400l/450l/
2. Enhanced Physical Treatment (EPT) unit (Body Material: stainless steel 316L, US power density: 0.45-0.8W/ cm2)
Model: EME-80/150/300/400/600/800/1000-00
3. Power Cabinet: EMP-80, EMP-150, EMP-200, EMP-300,EMP-400, EMP-500-600, EMP-800, EMP-1000, EMP-1200, EMP-2400, EMP-3000,EMP-4000, EMP-5000
Control Cabinet: EMC-80-1000, EMC-1200, EMC-1600 -2000,EMC-2400-3000, EMC-4000, EMC-5000

Other Conditions

For application on a LR classed vessel, the following conditions to be complied with: -

1. Details of the location of the Ballast water management system, and its integration into the ships ballast system and electrical power distribution system are to be shown on the relevant plans and those are to be submitted for consideration in accordance with the applicable LR rules prior to installation.
2. Installation survey and commissioning is to be conducted for each installation on-board ship in accordance with Lloyd's Register specific survey requirements and with reference to IMO Res. MEPC.300 (72) on a case by case basis.
3. Filtration unit within BWTS is to comply with a recognised National or International standard.
4. Pressure vessel within BWTS is to meet the requirements of Part 5, Chapter 11 if applicable.
5. Valves within the ballast water management system are to meet the requirements of Part5, Chapter 12, Section 6 of the Rules.
6. Valves which are provided with remote control are to be arranged for local manual operation, independent of the remote operating mechanism.
7. Materials of Class III piping systems as defined in Part 5, Chapter 12, Section 1.5including mechanical joints, valves, flanges, steel pipes are to be manufactured and tested in accordance with the requirements of recognised National or International standards.

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Materials used in the construction of machinery and its installation are not to contain asbestos, LR Rules Part 5, Chapter 1,Section 2.2.2 refers.

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 Classification Society (China) Co Ltd of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR21271321TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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