Certificate No: LR26377089TA
Issue Date: 09/10/2026
Expiry Date: 08/10/2031

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 **Alfa Laval Technologies AB**

Address Box 74, Lund, 221 00, Sweden

Place of Production Alfa Laval Qingdao Ltd.

9 West Minjiang Rd, Jiaozhou Econ.& Tech. Development Zone, Jiaozhou, Qingdao, Shandong Province, QINGDAO, China

Place of Production Alfa Laval Aalborg A/S

Gasværksvej 21, Aalborg, 9000, Denmark

Type Ballast Water Treatment System

Description Ballast Water Treatment System Comprising of Following CBS Components

Item	Manufacturer	Type
PLC	B&R	X20CP1686X
HMI	B&R	6PPT80.101E-168
Network Switch	Phoenix	1004NT-SFX

Trade Name PureBallast 3.5 Ultra (Model range 85-3000), PureBallast 3.5 Ultra Ex (Model range 300-3000)

Application Marine Application

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Pawan Borate

Specialist Electrical & Control to Lloyd's Register Marine and Offshore India LLP
A member of the Lloyd's Register group

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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Type Approval Certificate

Specified Standard

LR's Ships Rules, Part 6, Chapter 1, Section 2.16 - Cyber Resilience, applicable requirements for system & equipment
IACS UR E27 - Cyber Resilience of on-board systems and equipment, Rev. 1 Sept 2023

Other Conditions

The control system shall be installed in areas with means to prevent unauthorized access.

This certificate is issued with the limitation that the directly connected networks are “trust networks” (according to the definition in IACS UR E26 (Rev.1).

This certificate is issued on the understanding that all connections are wired. Any radiocommunication (e.g. Bluetooth, WiFi etc.) are excluded.

Changes affecting the type approved security capabilities shall be informed to LR. Major modifications may require witnessing of type testing and update of this type approval certificate to reflect new products or type listed in description.

When this System is delivered to a Ship where Cyber Resiliency requirements are applicable then the system is to be delivered with Project Specific System Certificate achieved through Plan approval of reduced set of documents as per IACS UR E27.

The additional security capabilities required for CBSs with network communication to untrusted networks have not been tested. If in ship specific installation connection with untrusted network is to be established then additional security capabilities required as per LR Ship Rules, Part 6, Chapter 2, Section 2.16.10 are to be complied with, and tests are to be done for the demonstration of the same during the factory/ onboard survey.

Type Approval does not eliminate the need (as required by LR Rules) the requirements for further review or for the product to be further inspected and/ or surveyed to be installed in ships classed or intended to be classed with LR.

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Type Approval Certificate

If the specified standards are amended during the validity of this certificate, the product is to be reapproved prior to it being supplied to vessels to which the amended standards apply.

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-26-059409-E-01 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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