Certificate No: LR22472691TA
Issue Date: 08/11/2022
Expiry Date: 20/02/2027

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 **Vanzetti Engineering S.p.A.**

Address Via dei Mestieri, 3, Cavallerleone (CN), 12030, Italy

Type Pumps

Description Cryogenic submerged pumps for liquefied natural gas (LNG)

Trade Name Artika 160 series with 2,3 & 4 stages

Application Gas systems of Gas Carriers and Gas Fuelled Ships

Specified Standard
LR Rules for Ships, Part 5, July 2016
LR Rules for Ships using Gases or other Low-flashpoint Fuels, July 2016
LR Rules for Ships for the Carriage of Liquefied Gases in Bulk, July 2016

Ratings

Pump model	160-2S	160-3S	160-4S
Number of stages	2	3	4
Operating design Temperature [°C]	-165	-165	-165
Design pressure [barg]	15	22	30
Max Differential head [m]	270	405	540
Flow rate [LPM]	40-420	40-420	40-420
Max speed [RPM]	5835	5820	5845

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Minimum temperature for tests and commissioning[°C]	-196	-196	-196

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.

Previous Version: 17/00018

The Design Appraisal Document LR22472691DA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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