Certificate No: LR21225659TA
Issue Date: 19/04/2021
Expiry Date: 18/04/2026

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	**Microflex, Inc**
Address	1800 N US Hwy 1, Ormond Beach, FL, 32174
Place of Production	Microflex, Inc 1800 N US Hwy 1, Ormond Beach, FL, 32174
Type	Flexible Hoses
Description	1-1/4" X 3" and 2" X 4" Metallic hoses jacketed assembly with flanged ends
Trade Name	Metallic hoses jacketed assembly with flanged ends
Specified Standard	Rules and Regulations for Classification of Ships 2020 Rules and Regulations for Classification of Offshore Units 2020
Ratings	Static Pressure 16 bar and Pulsation Pressure from 4 to 12 bar.
Other Conditions	1.These hoses are not to be installed where high pressure delivery lines of fuel, hydraulic and flammable oils which are required to be protected with a jacketed piping system capable of containing leaks from a high pressure line failure as per Part 5 Chapter 2 sections 8.1.4, 8.1.5 and 8.1.6. 2. Flanged series, the pressure rating will be further limited by the rating of the flanges. 3. The hoses are to be short length as stated in the Rules.

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Gopal Nair

Americas Design Appraisal Manager to
Lloyd's Register Quality Assurance Inc
A member of the Lloyd's Register group

1330 Enclave Parkway, Houston, Texas, 77077,
United States

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4. Where hoses containing flammable fluids are installed in close proximity to hot surfaces, electrical installation or other source of ignition, the risk is to be mitigated by use of screens or other suitable protection.
5. Hoses are to be installed in clearly visible and readily accessible locations.
6. Hoses to be installed in accordance with manufacturer's instruction.
7. Hoses are not to be used in high pressure fuel injection systems.
8. Flexible hoses are not to be used to compensate for misalignment between sections of piping and where they may be subjected to torsional deformation.
9. All materials of inner hoses should conform to Low carbon type 316L or 304L for marine atmosphere.
10. The jacketed spaces between the inner hose and outer hose should be monitored for failure of inner hose and the assembly should be replaced in the event of failure of inner hose.

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 Quality Assurance Inc of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document LR21225659TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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