



CERTIFICATE NUMBER 19-HG1896911-PDA  
EFFECTIVE DATE 09-September-2019  
EXPIRATION DATE 08-September-2024  
ABS TECHNICAL OFFICE Hamburg Engineering Department

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## CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

**HEINRICHS MESSTECHNIK GMBH**

located at

**ROBERT-PERTHEL STR. 9, D-50739 KOELN, GERMANY**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

**Product Coriolis Mass Flow Measuring System**

**Model TMU (Coriolis Mass Flow Sensors)  
UMC3, UMC4 (Coriolis Mass Flow Converters with control unit)**

This Product Design Assessment (PDA) Certificate remains valid until expiration date or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

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Dimitrios Nikolakis  
Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)