



Marine & Offshore
Division

Certificate number: 38317/A0 BV

File number: AP 4531

Product code: 3944H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Micro Motion Inc.

Boulder, CO - UNITED STATES OF AMERICA

for the type of product

VISCOSITY MONITORING SYSTEMS

Heavy Fuel Viscosity Meter

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 04 Sep 2019

For BUREAU VERITAS,

At BV PORT EVERGLADES CENTRE, on 04 Sep 2014,

Flavio Rosas



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarp.com/veristar/b/jsp/viewPublicPdfTypepec.jsp?id=wh8oradvpb>

BV Mod. Ad.E 530 May 2009

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Micro Motion Viscomaster Heavy Fuel Viscosity Meter - HFVM

Micro Motion Viscosity Meter controls and manages measure liquid viscosity, density and temperature.

1.1 - Main Specifications

Designation

Functions	: For applications measuring fuel blending and heater combustion control.
Outputs	: 4-20 mA signal
Supply Voltage	: 24 VDC
Ingress Protection	: IP 66/67
Ex Marking	: Ex nA IIC T6 Gc or Ex nA IIC T4 Gc (certificate Number : Sira 13ATEX4258X, Issue 0) (certificate Number : IECEX BVS 13.0008X, Issue 0, dated 2013.03.04)

2. DOCUMENTS AND DRAWINGS:

Product Data Sheet "Micro Motion Viscomaster HFVM" PS-001487 Rev. A - 2013.

Test plan "Micro_Motion_TP_04-08-14_Rev B" issued by Intertek

3. TEST REPORTS:

Bureau Veritas:

ROI No. 20141105-01, dated May 6, 2014

Test sign offs No. 1015512758 Rev.C1, dated May 02, 2014 witnessed by BV.

ROI named 20141105 June 2014.pdf

CSA Group:

MMI_CSA_IP_REPORT No. 2570840 Ed.2, dated April 4, 2013

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - BUREAU VERITAS Environmental Category, **EC Code: 41.**

4.4 - The equipment fulfils the EMC requirements for installation in General power Distribution Zone.

4.5 - This product may be used in areas considered as dangerous due to the presence of flammable or explosive gases or vapours corresponding to the group IIC and to the temperature class Tx defined in IEC Classification, in accordance with the certificates at clause 1.1 above.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **MICRO MOTION Inc.** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320.

5.3 - **MICRO MOTION Inc.** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

MICRO MOTION Inc.
7070 Winchester Circle - Boulder, CO
UNITED STATES OF AMERICA

6. MARKING OF PRODUCT:

- Trade name,
- Date of manufacture and serial number,
- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

This approval is given with the understanding that: **MICRO MOTION Inc. - 7070 Winchester Circle - Boulder, CO - UNITED STATES OF AMERICA** - will accept full responsibility for informing shipbuilders, ship-owners or their sub-contractors of the proper methods of use and general maintenance of the transmitters and the conditions of this approval.

*** END OF CERTIFICATE ***