

OIML Member State
The Netherlands

Number R117/2007-NL1-15.01 Revision 2
Project number SO16201974
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Issuing authority NMI Certin B.V.
Person responsible: C. Oosterman

Applicant and Manufacturer Emerson Process Management
Micro Motion Inc.
7070 Winchester Circle
Boulder, CO 80301
United States of America

Identification of the certified type A **density sensor** (a sensor as a part of a densitometer)
Type: CDM100M; CDM100P

Characteristics See page 2

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 117-1 (2007) "Dynamic measuring systems for liquids other than water"

Accuracy Class 0,3
Maximum Permissible Error 0,8 kg/m³

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above. This Certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Type Evaluation Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority

NMI Certin B.V., OIML Issuing Authority NL1
7 June 2016


C. Oosterman
Head Certification Board

NMI Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
the Netherlands
T +31 78 6332332
certin@nmi.nl
www.nmi.nl

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The conformity was established by the results of tests and examinations provided in the associated report(s):

- No. NMI-12200566-01 dated 13 April 2015 that includes 114 pages.

Characteristics of the density sensor:

In the metal housing of the density sensor, two parallel tubes are mounted which are set into a vibrating motion by a drive coil which is controlled by the transmitter. The two pick-off coils generate signals representative for the frequency of motion of the measurement tubes. The resonance frequency depends, among other things, on the density of the liquid in the measurement tubes. The transmitter can output this resonance frequency either directly or via serial communication. Together with the calibration constants, a flow computer, to which the density sensor is connected and to which optionally external process pressure and temperature transmitters are connected, can calculate the liquid density under metering conditions and/or under standard conditions.

The metrological characteristics are given below:

| | | |
|---------------------------|---|---|
| Type | : | CDM100M (Stainless Steel) CDM100P (Nickel alloy C22 (N06022)) |
| Density range | : | 630 – 1300 kg/m ³ |
| Accuracy class | : | 0,3 |
| Environment classes | : | M2 / E2 |
| Temperature range ambient | : | -10 – +55 °C condensing; open and closed locations |
| Temperature range liquid | : | -10 – +60 °C |
| Maximum pressure | : | 100 bar(g) |
| Viscosity range | : | 0,6 – 8,5 mPa·s |
| Maximum flow rate | : | 10 kg/min |
| Power supply | : | 24 VDC, either from flow computer or external power supply |
| Software version | : | 1.62 with checksum ED596201 1.64 with checksum 628A6935 2.00 with checksum 8C64F133 |

External Supply 1:

| | | |
|---------------------|---|---------------------------|
| Type | : | QUINT PS/1AC/24 VDC/3.5 |
| Environment classes | : | M2 / E2 |
| Power supply | : | 100 – 240 VAC, 50 – 60 Hz |

External Supply 2:

| | | |
|---------------------|---|--------------------------|
| Type | : | QUINT PS/24 VDC/24 VDC/5 |
| Environment classes | : | M2 / E2 |
| Power supply | : | 24 VDC |

Certificate history:

This revision replaces the previous version.

| Revision | Date | Description of the modification |
|----------|---------------|--|
| Initial | 17 March 2015 | - |
| 1 | 25 June 2015 | Software version update |
| 2 | 7 June 2016 | Software version update of the non legally relevant part. Editorial changes |