

OIML Member State
The Netherlands

Number R137/2012-NL1-15.09
Project number 15200438
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Issuing authority Person responsible: NMi Certin B.V.
C. Oosterman

Applicant and Manufacturer Emerson Process Management
11100 Brittmoore Park Drive
77041 Houston, Texas
United States of America

Manufacturers mark or name Daniel Measurement and Control, Inc.

Identification of the certified type An **ultrasonic Gas Meter**
3414 / 3415 / 3416 / 3417 Senior Sonic

Characteristics See page 2 and further

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):

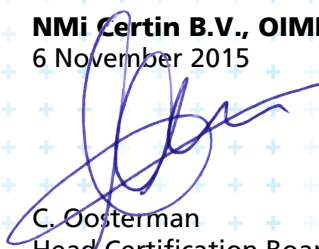
R 137-1 (2012) "Gas meters"

Accuracy class 1,0

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.

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Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
6 November 2015



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Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMi (see 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-15200438-01 dated 3 November 2015 that includes 48 pages.

Characteristics of the measuring instrument

In Table 1 the general characteristics of the measuring instrument are presented.
Table 2 gives an overview of the general characteristics of the family of instruments.
The construction of the measuring instrument is recorded in the Documentation folder no. T10078-5.

Gas meter configuration

Model 3414

The model 3414 is equipped with 4 measuring paths in a horizontal configuration.

Model 3415

The model 3415 contains of a model 3414 path layout and electronics. The model 3415 is additionally equipped with one check path which is connected to a separate set of electronics.

Model 3416

The model 3416 contains of a model 3414 path layout and electronics. The model 3416 is additionally equipped with one check path and one diagnostic path which are connected to a separate set of electronics.

Model 3417

The model 3417 is composed of two model 3414 electronics and transducers built into a model 3417 spool piece. The meter can be used in the following configurations:

1. Two separate gas meters
2. Pay / check configuration

Table 1 General characteristics

Destined for the measurement of	Gas volume
Environmental classes	M2 / E2
Accuracy class	Class 1,0
Maximum pressure	425 bar
Ambient temperature range	-25°C / +55°C
Gas temperature range	-25°C / +55°C
Designed for	Condensing humidity
Orientation	All orientations
Power supply voltage	10,4 – 36 V DC
Software identification	Version number: 1.22 Checksum: 3499386616

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Table 2 General characteristics of the family of instruments

Diameter		V_{\min} [m/s]	V_t [m/s]	V_{\max} [m/s]
DN [mm]	Typical ranges [mm]			
100	80 ~ 108	0,7	$1/10 V_{\max}$	28
150	124 ~ 161			
200	173 ~ 212			
250	216 ~ 265			
300	257 ~ 315	0,76		30,5
350	284 ~ 343			
400	325 ~ 394			
450	367 ~ 445			
500	408 ~ 495			
600	491 ~ 597			
750	730 ~ 749			
900	876 ~ 899	26		
1050	1029 ~ 1048		23	
				21

Installation conditions:

Inlet piping and flow straightener

The meter is used in one of the following configuration:

- a Vortab straightener followed by 20D piping at the inlet of the meter, see document 10078/0-08;
- 5D piping followed by a Daniel straightener followed by 10D piping at the inlet of the meter, see document 10078/0-09;
- 5D piping followed by a CPA 50E straightener followed by 10D piping at the inlet of the meter, see document 10078/0-10;
- 20D at the inlet of the meter, without any flow straightener;
- 10D at the inlet of the meter, while no 2 elbows out of plane are mounted in the next 10D.