

OIML Member State
The Netherlands

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Project number 3147081
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Issuing authority
Person responsible: NMI Certin B.V.
M.Ph.D. Schmidt

Applicant and
Manufacturer: Endress+Hauser Flowtec AG
Kägenstrasse 7
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Switzerland

Identification of the
certified type: **A measurement transducer**
Type: Promass F 300 DNxxx^[1]; Promass F 500 DNxxx^[1];
Promass O 300 DNxxx^[1]; Promass O 500 DNxxx^[1];
Promass X 300 DNxxx^[1]; Promass X 500 DNxxx^[1];
Promass Q 300 DNxxx^[1]; Promass Q 500 DNxxx^[1];

Characteristics See page 2 and further.

This OIML Certificate is issued under scheme A

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 / 0.5 / 1.0 / 1.5

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.

This certificate and supporting reports comply with the requirements of OIML-CS-PD-07 clause 6.2.

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[1] With xxx denoting the size of the Promass Q measurement sensor.

Issuing Authority: **NMI Certin B.V., OIML Issuing Authority NL1**
11 April 2022

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated reports:

Report number	Issue date	Number of pages
Measurement sensor		
PF/6491	2 July 1996	77
CVN-302404-01 rev. 1	27 June 2003	15
CPC-407631-1	31 March 2005	42
CPC-412432-1	31 March 2005	32
CPC-10200667-1	9 August 2010	7
NMi-10201056-1	29 March 2012	7
NMi-11200539-01	2 April 2012	11
NMi-12200149-1	24 May 2012	11
NMi-12200688-01	3 December 2013	30
NMi-14200053-01	16 April 2014	18
NMi-15200446-01	22 June 2016	11
NMi-15200323-01a	12 February 2021	94
NMi-1901704-01	31 August 2018	17
NMi-1902055-01	31 August 2018	26
NMi-2389303-01	12 May 2020	31
NMi-2389303-02	12 February 2021	17
NMi-2389303-03	12 February 2021	12
NMi-2463103-01	12 February 2021	17
Promass 300/500 electronics		
NMi-16200475-01	22 December 2016	247
NMi-1901185-01	1 November 2017	269
NMi-2202829-01	3 December 2019	261

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Characteristics of the measurement transducer

In Tables 1 to 6, the general characteristics of the measuring instrument are presented.

The construction of the measurement transducer is recorded in documentation folders TC7149-7 for the measurement sensor and TC10822-3 for the electronics.

Table 1 General characteristics applicable to all Promass measurement sensors

- Density range:	400 ... 1400 kg/m ³
- Maximum viscosity:	1000 mPa·s
- Accuracy class:	0.3; 0.5; 1.0 and 1.5
- Environmental classes:	M3 / E2 / H3
- Ambient temperature range:	-40 ... +55 °C
- Intended for the measurement of:	Oil and oil products, chemicals, potable liquids, liquefied gases under pressure measured at temperatures above -10 °C, liquefied gases under pressure measured below -10 °C, liquefied carbon dioxide and liquefied natural gas (LNG).

Table 2 Specific characteristics of the Promass F measurement sensors

Sensor size	DN8	DN15	DN25	DN40	DN50	DN80
Maximum flow rate [kg/min]	30	100	300	700	1000	3000
Minimum flow rate [kg/min] ^[2]	1,5	5	15	37,5	58,3	150
Minimum flow rate [kg/min] ^[3]	0,75	2,5	7,5	18,75	29,15	75
Minimum Measured Quantity [kg]	2	5	20	20	20	200

Sensor size	DN100	DN150	DN250			
Maximum flow rate [t/h]	270	720	2200			
Minimum flow rate [t/h] ^[2]	14	32	90			
Minimum flow rate [t/h] ^[3]	7	16	45			
Minimum Measured Quantity [kg]	200	500	1000			

Further characteristics of the Promass F:

Accuracy Class	0.3	0.5	1.0	1.5
Maximum pressure	100 bar(g)			
Temperature range liquid for mass measurement	-10 °C ... +200 °C			-200 °C ... +85 °C
Temperature range liquid for density and volume measurement	-10 °C ... +85 °C			NA

[2] For accuracy class 0.3 and 0.5

[3] For accuracy class 1.0 and 1.5

Table 3 Specific characteristics of the Promass X measurement sensors

Sensor size	DN350					
Maximum flow rate [t/h]	3353					
Minimum flow rate [t/h] ^[4]	137					
Minimum flow rate [t/h] ^[5]	68,5					
Minimum Measured Quantity [kg]	1000					

Further characteristics of the Promass X:

Accuracy Class	0.3	0.5	1.0	1.5
Maximum pressure	100 bar(g)			
Temperature range liquid for mass measurement	-10 °C ... +180 °C			-10 °C ... +85 °C
Temperature range liquid for density and volume measurement	-10 °C ... +85 °C			NA

Table 4 Specific characteristics of the Promass O measurement sensors

Sensor size	DN8	DN15	DN25	DN40	DN50	DN80
Maximum flow rate [kg/min]	30	100	300	700	1000	3000
Minimum flow rate [kg/min]	1,5	5	15	37,5	58,3	150
Minimum Measured Quantity [kg]	2	5	20	20	20	200

Sensor size	DN100	DN150	DN250			
Maximum flow rate [t/h]	270	720	2200			
Minimum flow rate [t/h]	14	32	90			
Minimum Measured Quantity [kg]	200	500	1000			

Further characteristics of the Promass O:

Accuracy Class	0.3	0.5	1.0	1.5
Maximum pressure	258 bar(g)			
Temperature range liquid for mass measurement	-10 °C ... +200 °C		NA	NA
Temperature range liquid for density and volume measurement	-10 °C ... +85 °C		NA	NA

[4] For accuracy class 0.3 and 0.5

[5] For accuracy class 1.0 and 1.5

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Table 5 Specific characteristics of the Promass Q measurement sensors

Sensor size	DN25	DN50	DN80	DN100		
Maximum flow rate [t/h]	20	80	200	400		
Minimum flow rate [t/h] ^[6]	0,45	2	6	14		
Minimum flow rate [t/h] ^[7]	0,225	1	3	7		
Minimum Measured Quantity [kg]	10	20	100	200		

Further characteristics of the Promass Q:

Accuracy Class	0.3	0.5	1.0	1.5
Maximum pressure	100 bar(g)			
Temperature range liquid for mass measurement	-10 °C ... +200 °C			-200 °C ... +90 °C
Temperature range liquid for density and volume measurement	-10 °C ... +200 °C			NA

^[6] For accuracy class 0.3 and 0.5
^[7] For accuracy class 1.0 and 1.5

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Table 6 General characteristics of the Promass 300 and Promass 500 electronics

Environmental classes	M3 / E2 / H3					
Ambient temperature range	-40...+55 °C; condensing humidity					
Power supply voltage	24 VDC 100...240 VAC, 50...60 Hz 24 VDC / 100...240 VAC, 50...60 Hz					
Software identification						
	Version number	Checksum		Version number	Checksum	
		Modbus	Hart		Modbus	Hart
	01.00.02 ^[8]	0xE87F	0x321F	01.02.00	0x5645	-
	01.00.03 ^[8]	0x79B5	0x1585	01.02.01	0x5645	-
	01.00.04	0xE109	0xB075	01.02.02	0x0A92	-
	01.01.01	0xA476	0x977D	01.02.03	0xECE3	-
	01.01.02	0x2AAB	0xED44	01.05.00	0xA9EE	0xB4A1
	01.01.03	0x6A37	0x86FC	01.05.01	0x2B95	0x59D4
	01.01.04	0x6D79	0x674	01.05.02	0xF1B7	0xE6B5
	01.01.05	0x4670	0x559B	01.05.03	-	0xD79D
	01.01.06	-	0x0891			
	01.01.07	-	0xB7B2			

The Promass 300 and Promass 500 flow transmitter is solely to be used in combination with dynamic mass meters (Coriolis meters) of brand Endress+Hauser.

Certificate history

This revision replaces the previous version.

Revision	Date	Description of the modification
Initial	18 March 2021	-
1	11 April 2022	Additional software versions for the Promass 300/500 flow transmitter added.

^[8] This software version is only allowed for the Promass 300 electronics.