TYPE APPROVAL CERTIFICATE

Certificate no.:
TAA000024D
Revision No:
2

This is to certify:

that the Flow Transmitter

with type designation(s)
Promass E, F 100

issued to
Endress+Hauser Flowtec AG
Reinach, **Switzerland**

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**A**
Enclosure	**C**

Issued at **Hamburg** on **2024-04-05**

This Certificate is valid until **2029-04-04**.
DNV local unit: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV**

Digitally Signed By: Papanuskas, Joannis
Location: DNV SE Hamburg, Germany

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Coriolis flowmeter for mass or volume flow measurement of fluids or gases
The device consists of sensor Promass E, F and transmitter Promass 100
Process connection: flange
Flange dimensions: DN 8 to 80 (E), DN 8 to 250 (F)
Measuring accuracy: see manufacturer specification
Power supply: 24V DC
Output signal: 4…20mA HART, Modbus RS485, Ethernet/IP, Profibus DP, Profinet
Pulse/Frequency/Switch
Degree of protection: IP 66/67
Ex-proof protection: according to relevant Ex-Certificate(s)

Firmware versions:
01.01.zz, HART
01.01.zz, Pofibus DP
01.03.zz, Modbus
01.02.zz, Ethernet/IP
01.00.zz, Profinet

Variants according to order code:

Promass E 100		
Order Code	**8E1B** aa – bb c d e f g hh iii j	
aa	Nominal Diameter:	08; 15; 25; 40; 50; 80
bb	Approval:	Any two letter and/or number combination
c	Power Supply:	D
d	Output; Input:	B; L; M; N; R
e	Display; Operation:	A; B
f	Housing:	A; B; C
g	Electrical Connection:	A; B; C; D; I; L; N; P; Q; U
hh	Meas. Tube Mat., Wetted Parts Surface:	SA; SB; SC;
iii	Process Connection:	Any triple letter and/or number combination
j	Calibration Flow:	H; I; J; 9

Promass E 100		
Order Code	**8E1C** aa – bb c d e f g hh iii j	
aa	Nominal Diameter:	08; 15; 25; 40; 50; 80
bb	Approval:	Any two letter and/or number combination
c	Power Supply:	D
d	Output; Input:	B; L; M; N; R
e	Display; Operation:	A; B
f	Housing:	A; B; C
g	Electrical Connection:	A; B; C; D; I; L; N; P; Q; U
hh	Meas. Tube Mat., Wetted Parts Surface:	SA; SB; SC;
iii	Process Connection:	Any triple letter and/or number combination
j	Calibration Flow:	A; B; C; H; I; J; 9

Promass F 100		
Order Code	**8F1B** aa – bb c d e f g hh iii j	
aa	Nominal Diameter:	08; 15; 25; 40; 50; 80; 1H; 1F; 2F
bb	Approval:	Any two letter and/or number combination
c	Power Supply:	D

d	Output; Input:	B; L; M; N; R
e	Display; Operation:	A; B
f	Housing:	A; B; C
g	Electrical Connection:	A; B; C; D; I; L; N; P; Q; U
hh	Meas. Tube Mat., Wetted parts Surface:	HA; SA; SB; SC; SD; SE; SF; TH
iii	Process Connection:	Any triple letter and/or number combination
j	Calibration Flow:	A; B; C; D; K; L; M; 8; 9

Place of manufacture

Endress + Hauser Flowtec AG
Reinach, Switzerland

Endress + Hauser Flowtec (China) Co. Ltd.
Suzhou, China

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

This type approval does not cover wetted parts. Suitability of pressure contained wetted parts to be considered for each application according to relevant requirements.

Type Approval documentation

Test Report: paconsult No. 14-5875, dated 19th August, 2014
Test Report: MTN No. 07295.183.14 V1.1, dated 2nd September, 2014
Test Report: Sira C. No: 51G24572labA, dated 18th October, 2011
Submission 2018/2019: E+H Documents-Package, issue 2018
Proline Promass E 100 B-design TI01021D/06/EN/06.18
Proline Promass E 100 C-design TI01351D/06/EN/02.18
Proline Promass F 100 TI01034D/06/EN/07.18
Test Report: E+H Promass 100 Profibus-DP, 2018-09-06
Test Report: E+H Promass 100 Profinet, 2015-07-09
Test Report: E+H Promag 100 Modbus 2013-12-13
Test Report: E+H Promass 500 EthernetIP, 2017-09-05
Test Report: E+H No. EMC2020PCF0015 V01.00, 2020-09-17
Test Report: MTN 071997.154.18 V1.0, 2018-07-31
Test Report: MTN 071997.140.18 V1.3, 2018-08-10
Test Report: paconsult no. 18-10301C, Rev. 3, 2018-11-05
Test Report: paconsult no. 18-10301F, Rev. 3, 2018-11-09
Assembly Drawings; Assembly Plans, Circuit Diagrams
Software Development and Test Documentation / Software Release Review Checklists
E+H 'Overview: official software status, October 2018', 2018-09-18
Type approval assessment report issued at Shanghai on 2023-02-07
Type approval assessment report issued at Augsburg on 2024-01-24

Tests carried out

Applicable tests according to class guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:
- manufacturer name
- model name: [Promass E/F] + [Promass 100]
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE