

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Flow Transmitter**with type designation(s)
Promass E 300/500

Issued to

Endress + Hauser Flowtec AG
Reinach BL, Switzerland

is found to comply with

DNV GL 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 GL.****Location classes:**

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	C

Issued at **Hamburg** on **2019-04-01**This Certificate is valid until **2024-03-31**.DNV GL local station: **Augsburg**for **DNV GL**Approval Engineer: **Dariusz Lesniewski**

Joannis Papanuskas
Head of Section

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 and transmitter Promass 300/500

Process connection: flange

Flange dimensions: DN 8 to 80

Measuring accuracy: see manufacturer's specification

Power supply: 24V DC, 100-230V AC, 100-230V AC/24V DC

Output signal: 4-20mA HART, 4-20mA WirelessHART, Pulse/Frequency/Switch

Modbus, Ethernet/IP, Profibus PA, Profibus DP, Profinet, Foundation Fieldbus

Degree of protection: IP 66/67

Ex-proof protection: according to relevant Ex-Certificate(s)

Firmware version:

01.01.zz, HART

01.01.zz, Profibus PA

01.00.zz, Profibus DP

01.01.zz, Modbus

01.00.zz, Ethernet/IP

01.00.zz, Profinet

01.00.zz, Foundation Fieldbus

Variants according to order code:

Promass E 300		
Order Code		8E3B aa – bb c dd e f g h i jj kkk
aa	Nominal Diameter:	08; 15; 25; 40; 50; 80
bb	Approval; Transmitter + Sensor:	Any two letter and/or number combination
c	Power Supply:	D; E; I
dd	Output; Input 1:	BA; BB; CA; CB; GA; HA; LA; MA; NA; RA; SA; TA
e	Output; Input 2:	A; B; C; D; E; F; G; H; I; J
f	Output; Input 3:	A; B; C; D; E; F; G; H; I; J
g	Display; Operation:	A; F; G; M; O
h	Housing:	A; B
i	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5
jj	Meas. Tube Mat., Wetted Parts Surface:	SA; SB; SC
kkk	Process Connection:	Any triple letter and/or number combination
j	Calibration Flow:	A; B; C; H; I; J; 9

Job Id: **262.1-028690-1**
Certificate No: **TAA000025Z**

Promass E 500		
Order Code	8E5B aa – bb c dd e f g h i j k l m nn ooo p	
aa	Nominal Diameter:	08; 15; 25; 40; 50; 80
bb	Approval; Transmitter; Sensor:	Any two letter and/or number combination
c	Power Supply:	D; E; I; X
dd	Output; Input 1:	BA; BB; CA; CB; GA; HA; LA; MA; NA; RA; SA; TA ; XX
e	Output; Input 2:	A; B; C; D; E; F; G; H; I; J; X
f	Output; Input 3:	A; B; C; D; E; F; G; H; I; J; X
g	Output; Input 4:	A; B; C; D; E; G; H; I; J; X
h	Display; Operation:	F; G; X
i	Integrated ISEM Electronic:	A; B
j	Transmitter Housing:	A; X
k	Sensor junction Housing:	A; B; C
l	Cable, Sensor Connection:	A; B; E; F; 1; 2; 3
m	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5
nn	Meas. Tube Mat., Wetted Parts Surface:	SA; SB; SC
ooo	Process Connection:	Any triple letter and/or number combination
p	Calibration Flow:	A; B; C; H; I; J; 9

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL 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

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- 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:

Job Id: **262.1-028690-1**
Certificate No: **TAA000025Z**

- 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