



Marine &amp; Offshore

Certificate number: 58416/A1 BV

File number: AP4848

Product code: 3744H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to*

**ENDRESS + HAUSER FLOWTEC AG**

Reinach BL 1 - SWITZERLAND

*for the type of product*

**FLOW METER**

Flow Transmitter

Proline Promass F, O, X 300/500

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

EC Code: 31BS, 41BS

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 15 Aug 2024**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 24 Jan 2022,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 5 page(s)

## THE SCHEDULE OF APPROVAL

### **1. PRODUCT DESCRIPTION :**

**Proline Promass F, O, X 300/500** are flowmeters for liquids which operate on the Coriolis measurement principle. The measuring system consists of a transmitter (Promass 300/500) and sensors (F, O or X).

#### **1.1 - Main characteristics:**

##### **Transmitter:**

Power supply: 24V DC, 230V AC, 230V AC/24V DC  
 Output: 4 to 20mA HART; Pulse/Frequency/Switch; Modbus; Ethernet; Profibus PA/DP; Profinet or Foundation Fieldbus  
 Operation: With or without display  
 Housing: Aluminum or Stainless Steel  
 Degree of protection: IP66, IP67  
 Software version: 01.01.xx Profibus PA; 01.00.xx Profibus DP, Ethernet, Foundation Fieldbus  
 01.05.xx HART, Modbus; 01.01.xx Profinet

##### **Sensor:**

Process connection: Flange, DN 08 to DN 250 for F, DN 80 to DN 250 for O and DN 350 for X

#### **1.2 - Variants:**

<b>Promass F 300</b>		
Order Code		8F3B aa – bb c dd e f g h i jj kkk l
<b>aa</b>	Nominal Diameter:	08; 15; 25; 40; 50; 80; 1H; 1F; 2F
<b>bb</b>	Approval; Transmitter + Sensor:	Any combination of two letters and/or numbers
<b>c</b>	Power Supply:	D; E; I
<b>dd</b>	Output; Input 1:	BA; BB; CA; CB; GA; HA; LA; MA; NA; RA; SA; TA
<b>e</b>	Output; Input 2:	A; B; C; D; E; F; G; H; I; J
<b>f</b>	Output; Input 3:	A; B; C; D; E; F; G; H; I; J
<b>g</b>	Display; Operation:	A; F; G; M; O
<b>h</b>	Housing:	A; B; L
<b>i</b>	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5
<b>jj</b>	Meas. Tube Mat., Wetted Parts Surface:	HA; LA; SA; SB; SC; SD; SE; SF; TH
<b>kkk</b>	Process Connection:	Any combination of three letters and/or numbers
<b>l</b>	Calibration Flow:	A; B; C; D; K; L; M; 8; 9

<b>Promass F 500</b>		
Order Code		8F5B aa – bb c dd e f g h i j k l m nn ooo p
<b>aa</b>	Nominal Diameter:	08; 15; 25; 40; 50; 80; 1H; 1F; 2F
<b>bb</b>	Approval; Transmitter; Sensor:	Any combination of two letters and/or numbers
<b>c</b>	Power Supply:	D; E; I; X
<b>dd</b>	Output; Input 1:	BA; BB; CA; CB; GA; HA; LA; MA; NA; RA; SA; TA ; XX
<b>e</b>	Output; Input 2:	A; B; C; D; E; F; G; H; I; J; X
<b>f</b>	Output; Input 3:	A; B; C; D; E; F; G; H; I; J; X
<b>g</b>	Output; Input 4:	A; B; C; D; E; G; H; I; J; X
<b>h</b>	Display; Operation:	F; G; X
<b>i</b>	Integrated ISEM Electronic:	A; B
<b>j</b>	Transmitter Housing:	A; L; X
<b>k</b>	Sensor Junction Housing:	A; B; C; L
<b>l</b>	Cable, Sensor Connection:	A; B; E; F; 1; 2; 3
<b>m</b>	Electrical Connection:	A; B; C; D; L; M; N; P; R; S; T; U; V; 3; 4; 5;
<b>nn</b>	Meas. Tube Mat., Wetted Parts Surface:	HA; LA; SA; SB; SC; SD; SE; SF; TH
<b>ooo</b>	Process Connection:	Any combination of three letters and/or numbers
<b>p</b>	Calibration Flow:	A; B; C; D; K; L; M; 8; 9

<b>Promass O 300</b>		
Order Code		8O3B aa – bb c dd e f g h i jj kkk l
aa	Nominal Diameter:	80; 1H; 1F; 2F
bb	Approval; Transmitter + Sensor:	Any combination of two letters and/or numbers
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; L
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:	FA
kkk	Process Connection:	Any combination of three letters and/or numbers
l	Calibration Flow:	A; B; C; D; K; L; M; 8; 9

<b>Promass O 500</b>		
Order Code		8O5B aa – bb c dd e f g h i j k l m nn ooo p
aa	Nominal Diameter:	80; 1H; 1F; 2F
bb	Approval; Transmitter; Sensor:	Any combination of two letters and/or numbers
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; L; X
k	Sensor Junction Housing:	A; B; C; L
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:	FA
ooo	Process Connection:	Any combination of three letters and/or numbers
p	Calibration Flow:	A; B; C; D; K; L; M; 8; 9

<b>Promass X 300</b>		
Order Code		8X3B aa – bb c dd e f g h i jj kkk l
aa	Nominal Diameter:	3R; 3F; 3E
bb	Approval; Transmitter + Sensor:	Any combination of two letters and/or numbers
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; L
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
kkk	Process Connection:	Any combination of three letters and/or numbers
l	Calibration Flow:	A; B; C; D; 8; 9

<b>Promass X 500</b>		
Order Code	8X5B aa – bb c dd e f g h i j k l m nn ooo p	
aa	Nominal Diameter:	3R; 3F; 3E
bb	Approval; Transmitter; Sensor:	Any combination of two letters and/or numbers
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; F; G; H; I; J, X
h	Display; Operation:	F; G; X
i	Integrated ISEM Electronic:	A; B
j	Transmitter Housing:	A; L; X
k	Sensor Junction Housing:	L
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
ooo	Process Connection:	Any combination of three letters and/or numbers
p	Calibration Flow:	A; B; C; D; 8; 9

## 2. DOCUMENTS AND DRAWINGS:

- TI01221D/06/EN/06.18; TI01222D/06/EN/05.18; TI01275D/06/EN/04.18; TI01285D/06/EN/04.18
- TI01279D/06/EN/04.18; TI01289D/06/EN/04.18
- 341253-0001ZCA version 00 dated 21.03.2016; 341254-0002ZAA version 00 dated 21.03.2016
- 341421-0000JAA version 00 dated 13.02.2015; 341600-0001ZAA version 00 dated 14.12.2015
- 341600-0002ZAA version 00 dated 21.03.2016; 961001825 version B dated 14.09.2017

For A1 version:

- IECEx CSA 16.0034X issue no.: 7 dated 2020-10-17

## 3. TEST REPORTS:

- MeßTechnikNord: 071997.154.18 V1.0 dated 30.07.2018; 071997.140.18 V1.3 dated 10.08.2018
- paconsult: 18-10301C Rev. 3 dated Nov. 05, 2018; 18-10301F dated Nov. 09, 2018; 18-10301A Rev. 2 dated Oct. 26, 2018
- IWS: G 780-18 dated 22.10.2018

For A1 version:

- EMC2020PCF0010 V01.00 dated 2020-09-17; EMC2020PCF0012 V01.00 dated 2020-09-16

## 4. APPLICATION/LIMITATION:

- 4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships
- 4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - Bureau Veritas Environmental Category, **EC Code: 31BS, 41BS**
- 4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7.
- 4.5 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.
- 4.6 - This type approval does not cover pressure contained wetted parts of the sensor.
- 4.7 - The used sensor material should be suitable for the intended media.

## 5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be supplied by **Endress + Hauser Flowtec AG** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320.
- 5.3 - A Bureau Veritas inspection certificate could be required for pressure contained wetted parts of the sensor depending on the size, pressure, temperature and used media.
- 5.4 - **Endress + Hauser Flowtec AG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

**Endress + Hauser Flowtec AG**  
**Kaegenstrasse 7**  
**4153 Reinach BL1**  
**SWITZERLAND**

**6. MARKING OF PRODUCT:**

- Maker's name or trademark
- Equipment type or model identification
- Date of manufacture and/or serial number
- Ex marking, as relevant

**7. OTHERS:**

7.1 - It is the responsibility of **Endress + Hauser Flowtec AG** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 58416/A0 BV issued on 15 Aug 2019 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*