

Type Approval Certificate



[Flow Meter]

Initial Approval 3 November 2022

Manufacturer Endress+Hauser Flowtec AG
Kaegenstrasse 7, CH-4153 Reinach BL1, Switzerland

Product Description Type: Proline Prowirl O 200

Place of manufacturing: 35, rue de l'Europe F-68700 Cernay France
Endress+Hauser Flowtec AG

" See Appendix 1 "

Approval Condition " See Appendix 1 "

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification of Steel Ships.

This Certificate is valid until 2 November 2027

Issued at Busan, Korea on 3 November 2022



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME22032570406) and certificate No.(MIL24580-AE014).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

Note : 1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 3 November 2022

A. Product Description

1. Product Specification

- 1) Product Description:
The "Proline Prowirl O 200" which is a flanged version(High pressure, 40~160bar) is used for flow measurement of gas, steam, and liquids.
- 2) Type designation:
PROWIRL O -> 702x**-...

Code	702B aa – bb c d e f g hhh i	or	702C aa – bb c d e f gg hhh i
Option	aa = Nominal Diameter: 15; 25; 40; 50; 80; 1H; 1F bb = Approval: Ex- approvals c = Output; Input: A; B; C; D; E; G d = Display; Operation: A; C; E; L; M e = Housing: B; C; J; K f = Electrical connection: A; B; C; D; I; M; 6 g or gg = Sensor Version: 4; 5; 6 or BD; CD hhh = Process Connection: ACS; ADR; ADS; ADT; AES; AET; A6B; A6C; D3W; D4W; D5W; D6B; D6W; NGS i = Calibration Flow: K; L; M		

2. Approved Drawings and Documents

- 1) Technical information No. TI01334D/06/EN/04.20
2) Drawing No. 330732-000ZCC Ver. 00, 211007529 Ver. C

3. Test Reports, etc.

- 1) Test Reports:
- Endress+Hauser GmbH+Co.KG: 970003925 dated 15.07.2013; 970003926 dated 17.07.2013; 970003927 dated 19.07.2013; 970003928 dated 19.07.2013; 15-05 LTE dated 04.05.2015; Performance test 400° C dated 21.05.2015; Steam Test dated 13 May 2015;
 - IWS Institut für Werkstoffkunde und Schweißtechnik Service GmbH: G 275-15 dated 27.04.2015;
 - MeßTechnikNord GmbH: 07472.062.15 V1.1. dated 08.06.2015;
 - Paconsult GmbH: 15-6583 dated 03 June 2015; 15-6583B dated June 9, 2015;
- For B0 version:
- Laboratory E+H Flowtec: EMC2020PCF0008 dated 2020-09-08; EMC2020PCF0009 dated 2020-09-08; EMC2021PCF0002 dated 2021-01-26; Vib 2020 PW200 001 dated 21 Oct 2020

B. Approval Condition

1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) The manufacturer should inform this Society of all kinds of revisions of the equipment. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 3) Degree of protection shall be complied with Rule Pt. 6 Ch.1 Sec. 2 201.2. (5).
- 4) The product shall not be installed in the bridge or on open decks.
- 5) Explosion-proof certification by a notified/recognized Certification Body is not covered by this certificate. Ratings and Special Condition for Safe Use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual product certification is not required.

3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

Product Description and/or Approval Condition

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4. Others

1) Test condition (IACS UR E10 Rev.8 basis)

Test	Condition	Remark
EMC	All locations including the bridge and deck zone	-
Temperature	-25°C ~ +70°C	-
Vibration	Acceleration $\pm 0.7g$	-
Salt mist	Applied	-
Ingress protection	IP66/67	-

< End of Certificate >

