DNV·GL

Certificate No:
TAA00002X8

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flow Transmitter

with type designation(s)
PROWIRL F, D, O, R

Issued to
Endress + Hauser Flowtec AG
Reinach, 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	**B, C**

Issued at **Hamburg** on **2020-12-04**
This Certificate is valid until **2025-12-03**.
DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

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Product description

Vortex flowmeter Proline Prowirl 200
Flow measurement of gas, steam and liquids

Type designation:
PROWIRL F -> 7F2x**-…
PROWIRL D -> 7D2x**-…
PROWIRL O -> 7O2x**-…
PROWIRL R -> 7R2x**-… (x=B, C)

Prowirl 200 (transmitter):
Display: 4-line display with push buttons or with touch control (backlit)
Operation:
– Via local display (17 operating languages)
– Via operating tools, e.g. "FieldCare" from Endress+Hauser
Power supply: DC 12 to 35 V
Degree of protection: IP66, IP67
Design / Housing material:
– Aluminum or stainless steel housing
Output/Input:
- current output (4–20 mA, HART); 2nd current output (optional)
- pulse/frequency/switch output;
- passive current input (optional)
Communication: HART, PROFIBUS PA; FOUNDATION Fieldbus
Ex approvals: ATEX, IECEx, cCSAus, NEPSI, TIIS, INMETRO

Prowirl D, F, R, O (sensors):
Max. measured error:
– Volume flow – liquids: ±0.75%; gases/steam: ±1.0%
– Mass flow – liquids: ±1.0%; gases/steam: ±1.7%
Nominal diameters:
– Prowirl D: DN 15 to 150 (½" to 6")
– Prowirl F: DN 15 to 300 (½" to 12")
– Prowirl R: DN 25 to 250 (1" to 10")
– Prowirl O: DN 15 to 300 (½" to 12")
Process connections:
– Prowirl D: Wafer
– Prowirl F/R/O: flange (EN [DIN], ASME, JIS)
– Prowirl O: flange (EN [DIN], ASME, JIS), butt-weld version
Process pressure:
– Prowirl D, F, R: PN 10 to 40, Class 150 to 300, 10 to 20K
– Prowirl O: PN 63 to 250, Class 600 to 1500, 40K
Process temperature:
– Standard: –200 to +400 °C (–328 to +752 °F)
– Option (Prowirl F, R, O): up to +450 °C (+842 °F)
Degree of protection:
- IP66 and IP67 (Type 4X enclosure)
Materials: Stainless steel, Alloy C22
Ex approvals: ATEX, IECEx, FM, cCSAus, NEPSI, TIIS, INMETRO

Firmware versions:
01.01.zz PROFIBUS PA, DevRev02
01.03.zz HART, DevRev03
01.01.zz FF, DevRev01

Place of manufacture

Endress+Hauser Flowtec AG

35, rue de I'Europe
68700 Cernay, FRANCE

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.

Type Approval documentation

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

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:
- 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