# Proline Prowirl D 200
# Vortex-flowmeter

## Kostenefficiënte flowmeter, leverbaar als compacte versie of versie met toegang op afstand


Meer informatie en actuele prijzen:
www.be.endress.com/7D2C

**Voordelen:**

- Geïntegreerde temperatuurmetingen voor massa-/energieflow van verzadigde stoom
- Eenvoudige uitlijning van de sensor – inclusief centreerringen
- Hoge beschikbaarheid – beproefde robuustheid, weerstand tegen trillingen, temperatuurschokken en waterslag
- Langdurige stabiliteit – robuuste capacitieve sensor zonder afwijking
- Handige instrumentbedrading – gescheiden aansluitcompartiment
- Veilige bediening – geen noodzaak om het instrument te openen dankzij display met aanraakbediening en achtergrondverlichting
- Geïntegreerde verificatie – Heartbeat Technology

### Overzicht specificaties

- **Max. meetfout** Volume flow (liquid): ±0.75 % Volume flow (steam, gas): ±1.00 % Mass flow (liquid): ±0.85% Mass flow (steam, gas): ±1.7 %
- **Measuring range** Liquid: 0.16 to 625 m³/h (0.09 to 368 ft³/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F) Steam, gas: 2 to 8342 m³/h (1.18 to 4910 ft³/min) depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); air with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)
- **Medium temperature range** Standard: –40 to +260 °C (–40 to +500 °F) High/low temperature (option): –200 to +400 °C (–328 to +752 °F) High/low temperature (on request): –200 to +450 °C (–328 to +842 °F)
- **Max. process pressure** PN 40, Class 300, 20K
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**Wetted materials** Measuring tube: 1.4408 (C3FM) DSC sensor: 1.4435 (316/316L)

**Toepassingsgebied:** De Prowirl D-sensor kan direct tussen flenzen worden gemonteerd, waardoor deze het functionele instrument vormt voor toepassingen in hulpprocessen tegen lage installatiekosten. Dankzij de echte lusgevoede technologie zorgt de Prowirl D 200 voor een kosteneffectieve en naadloze integratie in bestaande infrastructuren. Deze biedt maximale operationele veiligheid in gevaarlijke omgevingen. Heartbeat Technology waarborgt te allen tijde de procesveiligheid.

## Kenmerken en specificaties

### Liquids

**Meetprincipe**
Vortex

**Product headline**
Cost-effective wafer flowmeter, available as compact or remote version. Integrated temperature measurement for mass/energy flow of saturated steam.
For all basic applications and for 1-to-1 replacement of orifice plates.

**Sensor features**
Easy alignment of the sensor – included centering rings. High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer. Long-term stability – robust drift-free capacitive sensor. Face-to-face length of 65 mm (2.56 in). No flanges. Low weight.

**Transmitter features**
Convenient device wiring – separate connection compartment. Safe operation – no need to open the device due to display with touch control, background lighting. Integrated verification – Heartbeat Technology. Display module with data transfer function. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

**Nominal diameter range**
DN 15 to 150 (½ to 6")

## Liquids

**Wetted materials**

Measuring tube: 1.4408 (C3FM)
DSC sensor: 1.4435 (316/316L)

**Measured variables**

Volume flow, mass flow, corrected volume flow, energy flow, heat flow difference, temperature

**Max. meetfout**

Volume flow (liquid): ±0.75 %
Volume flow (steam, gas): ±1.00 %
Mass flow (liquid): ±0.85%
Mass flow (steam, gas): ±1.7 %

**Measuring range**

Liquid: 0.16 to 625 $m^3$/h (0.09 to 368 $ft^3$/min)
depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F)
Steam, gas: 2 to 8342 $m^3$/h (1.18 to 4910 $ft^3$/min)
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**Max. process pressure**

PN 40, Class 300, 20K

**Medium temperature range**

Standard: –40 to +260 °C (–40 to +500 °F)
High/low temperature (option): –200 to +400 °C (–328 to +752 °F)
High/low temperature (on request): –200 to +450 °C (–328 to +842 °F)

**Ambient temperature range**

Compact version (standard): –40 to +80 °C (–40 to +176 °F)
Compact version (option): –50 to +80 °C (–58 to +176 °F)
Remote version (standard): –40 to +85 °C (–40 to +185 °F)
Remote version (option): –50 to +85 °C (–58 to +185 °F)

**Sensor housing material**

Sensor connection housing: AlSi10Mg, coated; 1.4408 (CF3M)

## Liquids

**Transmitter housing material**
AlSi10Mg, coated; 1.4404 (316L)

**Degree of protection**
Compact version: IP66/67, type 4X enclosure
Sensor remote version: IP66/67, type 4X enclosure
Transmitter remote version: IP66/67, type 4X enclosure

**Display/Operation**
4-line backlit display with touch control (operation from outside)
Configuration via local display and operating tools possible
Remote display available

**Outputs**
4-20 mA HART (passive)
4-20 mA (passive)
Pulse/frequency/switch output (passive)

**Inputs**
Current input 4-20 mA (passive)

**Digital communication**
HART, PROFIBUS PA, FOUNDATION Fieldbus

**Power supply**
DC 12 to 35 V (4-20 mA HART with/without pulse/frequency/switch output)
DC 12 to 30 V (4-20 mA HART, 4-20 mA)
DC 12 to 35 V (4-20 mA HART, pulse/frequency/switch output, 4-20 mA input)
DC 9 to 32 V (PROFIBUS PA, pulse/frequency/switch output)

**Hazardous area approvals**
ATEX, IECEx, cCSAus, JPN, EAC, UK Ex

**Product safety**
CE, C-TICK, EAC

## Liquids

**Functional safety**

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

**Metrological approvals and certificates**

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)
Heartbeat Technology complies with the requirements for measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

**Marine approvals and certificates**

ABS, LR, BV, DNV GL

**Pressure approvals and certificates**

PED, CRN

**Material certificates**

3.1 material
NACE MR0175/MR0103, PMI (on request)

## Gas

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Vortex

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## Gas

**Transmitter features**

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**Nominal diameter range**

DN 15 to 150 (½ to 6")

**Wetted materials**

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DSC sensor: 1.4435 (316/316L)

**Measured variables**

Volume flow, mass flow, corrected volume flow, energy flow, heat flow difference, temperature

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**Ambient temperature range**

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Remote version (standard): −40 to +85 °C (−40 to +185 °F)
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**Sensor housing material**

Sensor connection housing: AlSi10Mg, coated; 1.4408 (CF3M)

**Transmitter housing material**

AlSi10Mg, coated; 1.4404 (316L)

**Degree of protection**

Compact version: IP66/67, type 4X enclosure
Sensor remote version: IP66/67, type 4X enclosure
Transmitter remote version: IP66/67, type 4X enclosure

**Display/Operation**

4-line backlit display with touch control (operation from outside)
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Remote display available

**Outputs**

4-20 mA HART (passive)
4-20 mA (passive)
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**Inputs**

Current input 4-20 mA (passive)

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**Transmitter housing material**
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**Material certificates**

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Meer informatie **www.be.endress.com/7D2C**

Endress+Hauser NV/SA BeLux addresses.endress.com
België info.be.sc@endress.com