Proline Prowirl O 200 vortex flowmeter

Flowmeter optimized for requirements of high-pressure mating pipes

Benefits:
- Better process control – integrated temperature and pressure measurement for steam and gases
- Increased mechanical integrity for flow measurement – special sensor design
- Same accuracy down to Re 10 000 – most linear Vortex meter body
- Long-term stability – robust drift-free capacitive sensor
- 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

Specs at a glance
- **Max. measurement error** Volume flow (liquid): ±0.75 % Volume flow (steam, gas): ±1.00 % Mass flow (saturated steam): ±1.7% (temperature compensated); ±1.5% (temperature/pressure compensated) Mass flow (superheated steam, gas): ±1.5 (temperature/pressure compensated); ±1.7% (temperature compensated + external pressure compensation) Mass flow (liquid): ±0.85%
- **Measuring range** Liquid: 0.1 to 1700 m³/h (0.061 to 1000 ft³/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F) Steam, gas: 0.52 to 22000 m³/h (0.31 to 13000 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)
Field of application: Prowirl O is ideally suited for reliable process control in demanding gas and steam applications with high process pressure. Moreover, its design ensures maximum safety in main and ancillary processes. With genuine loop-powered technology, Prowirl O 200 enables cost-effective and seamless integration into existing infrastructures. It offers highest operational safety in hazardous areas. Heartbeat Technology ensures process safety at all times.

Features and specifications

Liquids

**Measuring principle**
Vortex

**Product headline**
Flowmeter optimized for requirements of high-pressure mating pipes. Better process control – integrated temperature and pressure measurement for steam and gases. The specialist for applications with high process pressure.

**Sensor features**
Increased mechanical integrity for flow measurement – special sensor design. Same accuracy down to Re 10 000 – most linear Vortex meter body. Long-term stability – robust drift-free capacitive sensor. Saturated steam mass flow up to PN 250 (Class 1500). Full compliance with NACE (MR0175/MR0103). Flexible positioning of pressure cell.

**Transmitter features**

- **Max. process pressure** PN 250, Class 1500, 40K
- **Wetted materials** Measuring tube: 1.4408 (CF3M) DSC sensor: UNS N07718 similar to Alloy 718, 2.4668 Process connection: 1.4404/F316/F316L
### Liquids

**Nominal diameter range**
DN 15 to 300 (½ to 12")

**Wetted materials**
- Measuring tube: 1.4408 (CF3M)
- DSC sensor: UNS N07718 similar to Alloy 718, 2.4668
- Process connection: 1.4404/F316/F316L

**Measured variables**
- Volume flow, mass flow, corrected volume flow, energy flow, heat flow difference, temperature

**Max. measurement error**
- Volume flow (liquid): ±0.75 %
- Volume flow (steam, gas): ±1.00 %
- Mass flow (saturated steam): ±1.7% (temperature compensated); ±1.5% (temperature/pressure compensated)
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**Medium temperature range**
- Standard: −40 to +260 °C (−40 to +500 °F)
- High/low temperature (option): −200 to +400 °C (−328 to +752 °F)
Liquids

**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)

**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**
4 - 20 mA (passive)

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

**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

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

**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); only Class 900/1500: welding test acc. to ISO 15614 - 1, similar to ASME IX (on request)
Steam

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Steam

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More information [www.endress.com/7O2C](http://www.endress.com/7O2C)