

Proline Prowirl O 200 / 702B



More information and current pricing:

www.us.endress.com/702B

Benefits:

- Integrated temperature measurement up to PN 160 (Class 600)
- Highest mechanical integrity for flow measurement – special measuring tube material
- High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer
- No maintenance – lifetime calibration
- 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): $\pm 0.75\%$ Volume flow (steam, gas): $\pm 1.00\%$ Mass flow (liquid): $\pm 0.85\%$ Mass flow (steam, gas): $\pm 1.7\%$
- **Measuring range** Liquid: 0.16 to 545 m³/h (0.09 to 321 ft³/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68° F) Steam, gas: 2 to 7262 m³/h (1.18 to 4274 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** PN 63 to 160, Class 600: -200 to +400 °C (-328 to +752 °F) PN 250, Class 900 to 1 500: -50 to +400 °C (-58 to +752 °F)
- **Max. process pressure** PN 250, Class 1500, 40K
- **Wetted materials** Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor: UNS N07718 similar to Alloy 718, 2.4668; Titanium grade 5 similar to 3.7165 Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L similar to 1.4404

Field of application: The Prowirl O measuring tube is an all-cast design. It is especially designed for pressure ranges >40 bar and up to 250 bar. The proven and patented capacitive DSC sensor ensures high precision

measured values even under the toughest process conditions. Prowirl O 200 offers industry-compliant two-wire technology for seamless integration into existing infrastructures and control systems.

Features and specifications

Steam

Measuring principle

Vortex

Product headline

The flowmeter with a high pressure sensor, available as compact or remote version.

Integrated temperature measurement up to PN 160 (Class 600).

The specialist for applications with very high process pressure.

Sensor features

Highest mechanical integrity for flow measurement – special measuring tube material. High availability – proven robustness, resistance to vibrations, temperature shocks & water hammer. No maintenance – lifetime calibration.

Process pressure up to PN 250 (Class 1500). DSC sensor made of Titanium (PN > 160 bar/Cl.600). Face-to-face length according to industry standard.

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")

Steam**Wetted materials**

Measuring tube: 1.4408 (CF3M); 1.4571 similar to 316Ti DSC sensor:
UNS N07718 similar to Alloy 718, 2.4668; Titanium grade 5 similar to
3.7165

Connection: 1.4408 (CF3M); 1.4571 similar to F316 Ti; F316/F316L
similar to
1.4404

Measured variables

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

Max. measurement error

Volume flow (liquid): $\pm 0.75\%$

Volume flow (steam, gas): $\pm 1.00\%$

Mass flow (liquid): $\pm 0.85\%$

Mass flow (steam, gas): $\pm 1.7\%$

Measuring range

Liquid: 0.16 to 545 m³/h (0.09 to 321 ft³/min)

depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F)

Steam, gas: 2 to 7262 m³/h (1.18 to 4274 ft³/min)

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with 25 °C, 4.4 bar a (77 °F, 63.8 psi a)

Max. process pressure

PN 250, Class 1500, 40K

Medium temperature range

PN 63 to 160, Class 600: -200 to +400 °C (-328 to +752 °F)

PN 250, Class 900 to 1 500: -50 to +400 °C (-58 to +752 °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)

Steam**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

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, EAC

Other approvals and certificates

Steam

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)

Pressure approvals and certificates

PED, CRN, AD 2000

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)

Gas

Measuring principle

Vortex

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Liquids

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