

Proline Prowirl F 200 / 7F2B



Mais informações e preço atual:

www.br.endress.com/7F2B

Benefícios:

- Medição de temperatura integrado para vazão mássica/de energia do vapor saturado
- A mais alta segurança do processo – a versão dualsens permite a medição redundante
- Alta disponibilidade – robustez comprovada, resistência à vibração, choques térmico e golpe de aríete
- Sem manutenção – calibração por toda vida útil
- Fiação de equipamento prática – compartimento de conexão separado
- Operação segura – não é necessário abrir o equipamento, pois ele possui um display com controle por toque e iluminação traseira
- Verificação integrada – Tecnologia Heartbeat

Especificações resumidas

- **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 2412 m³/h (0.09 to 1420 ft³/min) depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F) Steam, gas: 2 to 32 166 m³/h (1.18 to 18 932 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
- **Wetted materials** Measuring tube: 1.4408 (C3FM); CX2MW similar to Alloy C22, 2.4602 DSC sensor: 1.4435 (316/316L); UNS N06022 similar to Alloy C22, 2.4602 Connection: 1.4404 (F316/F316L); CX2MW similar to Alloy C22, 2.4602; 1.4408 (CF3M)

Campo de aplicação: O tubo de medição Prowirl F é a primeira escolha em aplicações difíceis. O testado e patenteado sensor DSC capacitivo assegura valores medidos com alta precisão mesmo em processos difíceis. O Prowirl F 200 oferece a detecção de vapor úmido e tecnologia de dois fios padrão da indústria em infraestruturas e sistemas de controle existentes, bem como alta segurança da operação em áreas classificadas graças um projeto intrinsecamente seguro e um procedimento de instalação familiar.

Características e especificações

Liquids

Measuring principle

Product headline

std_productprofile_product_usp_8110.

std_productprofile_product_usp2_38908_1511797531.

Suitable for a wide range of applications; optimized for steam application:

Sensor features

std_productprofile_product_benefits_8113. High availability – proven ro resistance to vibrations, temperature shocks & water hammer.

std_productprofile_product_benefits_8115.

std_productprofile_product_differentiating_tech_features_6578.

std_productprofile_product_differentiating_tech_features_6577.

std_successorproducts_product_differentiating_tech_features_6580_15

Transmitter features

Convenient device wiring – separate connection compartment. Safe operation 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 safety: worldwide approvals (SIL, Haz. area).

Nominal diameter range

DN 15 to 300 (½ to 12")

Liquids

Wetted materials

Measuring tube: 1.4408 (C3FM); CX2MW similar to Alloy C22, 2.4602
 DSC sensor: 1.4435 (316/316L); UNS N06022 similar to Alloy C22, 2.46
 Connection: 1.4404 (F316/F316L); CX2MW similar to Alloy C22, 2.4602
 (CF3M)

Measured variables

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

Max. measurement error

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 2412 m³/h (0.09 to 1420 ft³/min)
 depending on medium: water with 1 bar a, 20 °C (14.5 psi a, 68 °F)
 Steam, gas: 2 to 32 166 m³/h (1.18 to 18 932 ft³/min)
 depending on medium: steam with 180 °C, 10 bar a (356 °F, 145 psi a); a
 °C, 4.4 bar a (77 °F, 63.8 psi a)

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)

Liquids

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

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)

DC 9 to 32 V (PROFIBUS PA, pulse/frequency/switch output)

Hazardous area approvals

ATEX, IECEx, cCSAus, EAC

Other approvals and certificates

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 technology 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); welding test acc. to ISO 15614-1 similar to ASME IX (on request)

Gas

Measuring principle

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std_successorproducts_product_differentiating_tech_features_6580_15

Gas

Transmitter features

Convenient device wiring – separate connection compartment. Safe operation need to open the device due to display with touch control, background light. Integrated verification – Heartbeat Technology.

Display module with data transfer function. Robust dual-compartment housing safety: worldwide approvals (SIL, Haz. area).

Nominal diameter range

DN 15 to 300 (½ to 12")

Wetted materials

Measuring tube: 1.4408 (C3FM); CX2MW similar to Alloy C22, 2.4602
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Connection: 1.4404 (F316/F316L); CX2MW similar to Alloy C22, 2.4602 (CF3M)

Measured variables

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

Max. measurement error

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Volume flow (steam, gas): ±1.00 %

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Measuring range

Liquid: 0.16 to 2412 m³/h (0.09 to 1420 ft³/min)

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

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Max. process pressure

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Gas**Medium temperature range**

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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)

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

Gas**Power supply**

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DC 12 to 35 V (4-20 mA HART, pulse/frequency/switch output, 4-20 mA)

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Steam

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Transmitter features

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Steam

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Remote display available

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