

Proline Promass F 100 Coriolis flowmeter

The flowmeter with premium accuracy,
robustness and an ultra-compact transmitter



Thông tin thêm và mức tính giá hiện tại:

www.apsc.endress.com/8F1B

Lợi ích:

- Highest process safety – immune to fluctuating and harsh environments
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Space-saving transmitter – full functionality on smallest footprint
- Time-saving local operation without additional software and hardware – integrated web server
- Integrated verification – Heartbeat Technology

Tổng quan về thông số kỹ thuật

- **Max. measurement error** Mass flow (liquid): $\pm 0.1\%$ (standard), 0.05% (option) Volume flow (liquid): $\pm 0.1\%$ Mass flow (gas): $\pm 0.25\%$ Density (liquid): $\pm 0.0005\text{ g/cm}^3$
- **Measuring range** 0 to 2 200 000 kg/h (0 to 80 840 lb/min)
- **Medium temperature range** Standard: -50 to $+150\text{ }^\circ\text{C}$ (-58 to $+302\text{ }^\circ\text{F}$) Option: -50 to $+240\text{ }^\circ\text{C}$ ($-58\text{...}+464\text{ }^\circ\text{F}$)
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022) Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Phạm vi ứng dụng: Promass F has a long standing reputation as a highly accurate device under varying process conditions. It is suited for broadest range of applications. Combined with the smallest transmitter housing available today it delivers full performance on the smallest footprint. Promass F 100 will be the preferred choice for system integrators, skid builders and equipment manufacturers. Available with an extra-compact

stainless steel hygienic housing it can be placed even into the most compact rigs.

Tín năng và thông số kỹ thuật

Gas

Measuring principle

Coriolis

Product headline

Flowmeter with premium accuracy, robustness and an ultra-compact transmitter.

Highest measurement performance for liquids and gases under varying, demanding process conditions.

Sensor features

Highest process safety – immune to fluctuating and harsh environments. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Mass flow: measurement error ± 0.05 % (PremiumCal). Medium temperature up to $+240$ °C ($+464$ °F). Nominal diameter: DN 8 to 250 ($\frac{3}{8}$ to 10").

Transmitter features

Space - saving transmitter – full functionality on the smallest footprint. Time - saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

Nominal diameter range

DN 8 to 250 ($\frac{3}{8}$ to 10")

Wetted materials

Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Gas

Measured variables

Mass flow, density, temperature, volume flow, corrected volume, flow, reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.25 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 2 200 000 kg/h (0 to 80 840 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

Standard: -50 to $+150$ °C (-58 to $+302$ °F)

Option: -50 to $+240$ °C (-58 ... $+464$ °F)

Ambient temperature range

Standard: -40 to $+60$ °C (-40 to $+140$ °F)

Option: -50 to $+60$ °C (-58 to $+140$ °F)

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra - compact: 1.4301 (304), 1.4404 (316L)

Degree of protection

Standard: IP66/67, type 4X enclosure

Option: IP69

Display/Operation

4 - line backlit display available (no local operation)

Configuration via web browser and operating tools possible

Gas

Outputs

4 - 20 mA HART (active)

Pulse/frequency/switch output (passive)

Inputs

None

Digital communication

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

Power supply

DC 20 to 30 V

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

Product safety

CE, C-Tick, EAC marking

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 (American Bureau of Shipping)

BV (Bureau Veritas)

LR (Lloyds Register)

BV approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

Gas**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

Density/Concentration**Measuring principle**

Coriolis

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Mass flow: measurement error $\pm 0.05\%$ (PremiumCal). Medium temperature up to $+240\text{ }^{\circ}\text{C}$ ($+464\text{ }^{\circ}\text{F}$). Nominal diameter: DN 8 to 250 ($\frac{3}{8}$ to 10").

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Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Density/Concentration

Measured variables

Mass flow, density, temperature, volume flow, corrected volume, flow, reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

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Sensor housing material

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Transmitter housing material

Compact: AlSi10Mg, coated

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Standard: IP66/67, type 4X enclosure

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Display/Operation

4 - line backlit display available (no local operation)

Configuration via web browser and operating tools possible

Density/Concentration**Outputs**

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

Inputs

None

Digital communication

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

Power supply

DC 20 to 30 V

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

Product safety

CE, C-Tick, EAC marking

Metrological approvals and certificates

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BV (Bureau Veritas)
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BV approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

3.1 material
NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

Density/Concentration

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Liquids

Measuring principle

Coriolis

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Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Liquids

Measured variables

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Max. measurement error

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Density (liquid): ± 0.0005 g/cm³

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Liquids

Outputs

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Inputs

None

Digital communication

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

Power supply

DC 20 to 30 V

Hazardous area approvals

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Product safety

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Pressure approvals and certificates

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Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN ISO, ASME, NORSOK

Liquids
Hygienic approvals and certificates

3-A, EHEDG, cGMP

Steam
Measuring principle

Coriolis

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Steam**Measured variables**

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Max. measurement error

Mass flow (liquid): ± 0.1 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.1 %

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Density (liquid): ± 0.0005 g/cm³

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Degree of protection

Standard: IP66/67, type 4X enclosure

Option: IP69

Display/Operation

No local operation

Configuration via web browser and operating tools possible

Steam**Outputs**

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

Inputs

None

Digital communication

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

Power supply

DC 20 to 30 V

Hazardous area approvals

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