

# Proline Promass F 100

## Przepływomierz masowy Coriolisa

Wyjątkowo dokładny i solidny przepływomierz z ultrakompaktowym przetwornikiem



Więcej informacji i aktualne ceny:

[www.pl.endress.com/8F1B](http://www.pl.endress.com/8F1B)

### Korzyści:

- Najwyższy poziom bezpieczeństwa procesowego – odporność na zmienne i trudne warunki
- Mniej punktów pomiarowych – jednoczesny pomiar kilku zmiennych (przepływu, gęstości, temperatury)
- Montaż na niewielkiej przestrzeni – bez konieczności stosowania prostych odcinków rurociągu przed i za przepływomierzem
- Mały przetwornik – pełna funkcjonalność na niewielkiej przestrzeni
- Oszczędzająca czas lokalna obsługa bez konieczności instalowania dodatkowego oprogramowania i sprzętu – zintegrowany serwer sieciowy
- Zintegrowana kontrola – Heartbeat Technology

### Kluczowe parametry

- **Maksymalny błąd pomiaru** Mass flow (liquid):  $\pm 0.1\%$  (standard),  $0.05\%$  (option) Volume flow (liquid):  $\pm 0.1\%$  Mass flow (gas):  $\pm 0.25\%$  Density (liquid):  $\pm 0.0005\text{ g/cm}^3$
- **Zakres pomiarowy** 0 to 2 200 000 kg/h (0 to 80 840 lb/min)
- **Zakres temperatury medium** Standard:  $-50$  to  $+150\text{ }^\circ\text{C}$  ( $-58$  to  $+302\text{ }^\circ\text{F}$ ) Option:  $-50$  to  $+240\text{ }^\circ\text{C}$  ( $-58\text{...}+464\text{ }^\circ\text{F}$ )
- **Maks. ciśnienie procesu** PN 100, Class 600, 63K
- **Materiały w kontakcie z medium** 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)

**Zastosowanie:** Seria przepływomierzy Promass F znana jest z wyjątkowej dokładności w różnych warunkach procesowych. Jest przeznaczona do wielu różnych zastosowań. Dzięki małej obudowie przetwornika

zapewnia wysoką wydajność na niewielkiej przestrzeni. Przepływomierz Promass F 100 jest idealnym wyborem dla osób zajmujących się integracją systemów, konstrukcją skidów pomiarowych i produkcją sprzętu. Jest dostępny w kompaktowej, higienicznej obudowie ze stali nierdzewnej, którą można umieścić na małym stanowisku.

## Funkcje i specyfikacja

### Gaz

#### Zasada pomiaru

Coriolis

#### Product headline

The flowmeter with premium accuracy, robustness and an ultracompact 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  $\pm 0.05\%$  (PremiumCal). Medium temperature up to  $+240\text{ }^{\circ}\text{C}$  ( $+464\text{ }^{\circ}\text{F}$ ).

#### Transmitter features

Space - saving transmitter – full functionality on smallest footprint. Time - saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology. Robust, ultra - compact transmitter housing. High ingress protection: IP69.

#### Średnica nominalna

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

#### Materiały w kontakcie z medium

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)

## Gaz

**Wielkości mierzone**

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

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**Maksymalny błąd pomiaru**

Mass flow (liquid):  $\pm 0.1$  % (standard), 0.05 % (option)

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas):  $\pm 0.25$  %

Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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**Zakres pomiarowy**

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

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**Maks. ciśnienie procesu**

PN 100, Class 600, 63K

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**Zakres temperatury medium**

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

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

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**Temperatura otoczenia**

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

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

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**Materiał obudowy czujnika**

1.4301/1.4307 (304L), corrosion resistant

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**Materiał obudowy przetwornika**

Compact: AlSi10Mg, coated

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

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**Stopień ochrony**

Standard: IP66/67, type 4X enclosure

Option: IP69

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**Wyświetlacz**

4 - line backlit display available (no local operation)

Configuration via web browser and operating tools possible

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## Gaz

**Wyjścia**

4 - 20 mA HART (active)

Pulse/frequency/switch output (passive)

**Wejścia**

None

**Komunikacja cyfrowa**

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

**Zasilacz**

DC 20 to 30 V

**Dopuszczenia do stosowania w strefach zagrożonych wybuchem**

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

Gaz

**Material certificates**

3.1 material

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

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**Hygienic approvals and certificates**3-A, EHEDG, cGMP

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Para

**Zasada pomiaru**Coriolis

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**Product headline**

The flowmeter with premium accuracy, robustness and an ultracompact transmitter. Highest measurement performance for liquids and gases under varying, demanding process conditions.

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

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## Para

**Materiały w kontakcie z medium**

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)

**Wielkości mierzone**

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

**Maksymalny błąd pomiaru**

Mass flow (liquid):  $\pm 0.1$  % (standard), 0.05 % (option)

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas):  $\pm 0.25$  %

Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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PN 100, Class 600, 63K

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**Stopień ochrony**

Standard: IP66/67, type 4X enclosure

Option: IP69

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**Wyświetlacz**

No local operation

Configuration via web browser and operating tools possible

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**Wyjścia**

4 - 20 mA HART (active)

Pulse/frequency/switch output (passive)

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**Wejścia**

None

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**Komunikacja cyfrowa**

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

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DC 20 to 30 V

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Density/Concentration	<p><b>Zasada pomiaru</b>  Coriolis</p> <hr/> <p><b>Product headline</b>  The flowmeter with premium accuracy, robustness and an ultracompact transmitter. Highest measurement performance for liquids and gases under varying, demanding process conditions.</p> <hr/> <p><b>Sensor features</b>  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 <math>\pm 0.05</math> % (PremiumCal). Medium temperature up to <math>+240</math> °C (<math>+464</math> °F).</p>



## Density/Concentration

### Transmitter features

Space - saving transmitter – full functionality on smallest footprint.  
Time - saving local operation without additional software and hardware  
– integrated web server. Integrated verification – Heartbeat Technology.  
Robust, ultra - compact transmitter housing. High ingress protection:  
IP69.

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### Średnica nominalna

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

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### Materiały w kontakcie z medium

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)

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### Wielkości mierzone

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

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### Maksymalny błąd pomiaru

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PN 100, Class 600, 63K

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### Zakres temperatury medium

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

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

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### Temperatura otoczenia

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

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**Density/Concentration****Materiał obudowy czujnika**1.4301/1.4307 (304L), corrosion resistant

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**Materiał obudowy przetwornika**

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**Stopień ochrony**

Standard: IP66/67, type 4X enclosure

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**Wyświetlacz**

4 - line backlit display available (no local operation)

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**Wyjścia**

4 - 20 mA HART (active)

Pulse/frequency/switch output (passive)

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**Wejścia**None

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**Komunikacja cyfrowa**HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

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**Zasilacz**DC 20 to 30 V

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**Dopuszczenia do stosowania w strefach zagrożonych wybuchem**ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC

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**Product safety**CE, C-Tick, EAC marking

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**Ciecze****Zasada pomiaru**

Coriolis

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3-A, EHEDG, cGMP

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