

# Кориолисовые массовые расходомеры Promass F 200

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# Proline Promass F 200 Coriolis flowmeter

## Robust flowmeter with genuine loop-powered technology



### Benefits:

- 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
- 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** Mass flow (liquid):  $\pm 0.1\%$  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 70 000 kg/h (0 to 2570 lb/min)
- **Medium temperature range** Standard:  $-50$  to  $+150 \text{ }^\circ\text{C}$  ( $-58$  to  $+302 \text{ }^\circ\text{F}$ ) Option:  $-50$  to  $+205 \text{ }^\circ\text{C}$  ( $-58$  to  $+401 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L); 1.4404 ; Alloy C22, 2.4602 (UNS N06022) Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

**Field of application:** Promass F has a long standing reputation as a highly accurate device. It is suited for broadest range of applications. Promass F 200 offers in addition genuine, industry-compliant two-wire technology. This enables seamless system integration into existing infrastructures. Additional advantages are high operational safety in

hazardous areas thanks to an intrinsically safe design (Ex ia) and process safety at all times enabled by Heartbeat Technology.

## Features and specifications

### Liquids

#### Measuring principle

Coriolis

#### Product headline

Robust flowmeter with genuine loop-powered technology. Highest measurement performance for liquids and gases in a wide range of applications.

#### 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: measured error  $\pm 0.1$  %. Medium temperature up to  $+205$  °C ( $+401$  °F). Nominal diameter: DN 8 to 80 ( $\frac{3}{8}$  to 3").

#### 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. Loop-powered technology. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

#### Nominal diameter range

DN 8 to 80 ( $\frac{3}{8}$  to 3")

#### Wetted materials

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

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

## Liquids

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### Measured variables

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

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### Max. measurement error

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

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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### Measuring range

0 to 70 000 kg/h (0 to 2570 lb/min)

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### Max. process pressure

PN 100, Class 600, 63K

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### Medium temperature range

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

Option:  $-50$  to  $+205$  °C ( $-58$  to  $+401$  °F)

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### Ambient temperature range

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

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### Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

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### Transmitter housing material

AlSi10Mg, coated, 1.4404 (316L)

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### Degree of protection

IP66/67, type 4X enclosure

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### Display/Operation

4-line backlit display with touch control

(operation from outside)

Configuration via local display and operating tools possible

Remote display available

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## Liquids

### Outputs

4-20 mA HART (passive)

4-20 mA (passive)

Pulse/frequency/switch output (passive)

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### Inputs

None

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### Digital communication

HART, PROFIBUS PA, FOUNDATION Fieldbus

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### Power supply

DC 18 to 35 V (4-20 mA HART with/without pulse/frequency/switch)

DC 18 to 30 V (20 mA HART, 4-20 mA)

DC 9 to 32 V (PROFIBUS PA)

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### Hazardous area approvals

ATEX, IECEx, cCSAus, INMETRO, NEPSI, JPN, UK Ex

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### Product safety

CE, C-TICK

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### Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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### 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)

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### Pressure approvals and certificates

PED, CRN, AD 2000

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**Liquids****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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**Gas****Measuring principle**

Coriolis

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**Product headline**

Robust flowmeter with genuine loop-powered technology.

Highest measurement performance for liquids and gases in a wide range of applications.

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**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: measured error  $\pm 0.1$  %. Medium temperature up to  $+205$  °C ( $+401$  °F). Nominal diameter: DN 8 to 80 ( $\frac{3}{8}$  to 3").

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**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. Loop-powered technology. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

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**Nominal diameter range**

DN 8 to 80 ( $\frac{3}{8}$  to 3")

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## Gas

**Wetted materials**

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

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

**Measured variables**

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

**Max. measurement error**

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

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

Mass flow (gas):  $\pm 0.25$  % Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

**Measuring range**

0 to 70 000 kg/h (0 to 2570 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  $+205$  °C ( $-58$  to  $+401$  °F)

**Ambient temperature range**

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

**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

**Transmitter housing material**

AlSi10Mg, coated, 1.4404 (316L)

**Degree of protection**

IP66/67, type 4X enclosure

## Gas

**Display/Operation**

4-line backlit display with touch control  
(operation from outside)  
Configuration via local display and operating tools possible  
Remote display available

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**Outputs**

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

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**Inputs**

None

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**Digital communication**

HART, PROFIBUS PA, FOUNDATION Fieldbus

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**Power supply**

DC 18 to 35 V (4-20 mA HART with/without  
pulse/frequency/switch)  
DC 18 to 30 V (20 mA HART, 4-20 mA)  
DC 9 to 32 V (PROFIBUS PA)

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**Hazardous area approvals**

ATEX, IECEx, cCSAus, INMETRO, NEPSI, JPN, UK Ex

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**Product safety**

CE, C-Tick, EAC marking

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**Functional safety**

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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**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)

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**Gas****Pressure approvals and certificates**

PED, CRN, AD 2000

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**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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**Density/Concentration****Measuring principle**

Coriolis

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**Product headline**

Robust flowmeter with genuine loop-powered technology.

Highest measurement performance for liquids and gases in a wide range of applications.

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**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: measured error  $\pm 0.1$  %. Medium temperature up to  $+205$  °C ( $+401$  °F). Nominal diameter: DN 8 to 80 ( $\frac{3}{8}$  to 3").

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**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. Loop-powered technology. Robust dual-compartment housing. Plant safety: worldwide approvals (SIL, Haz. area).

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**Nominal diameter range**

DN 8 to 80 ( $\frac{3}{8}$  to 3")

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**Density/Concentration****Wetted materials**

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

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

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**Measured variables**

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

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**Max. measurement error**

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

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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**Measuring range**

0 to 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**

PN 100, Class 600, 63K

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**Medium temperature range**

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

Option:  $-50$  to  $+205$  °C ( $-58$  to  $+401$  °F)

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**Ambient temperature range**

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

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**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

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**Transmitter housing material**

AlSi10Mg, coated, 1.4404 (316L)

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**Degree of protection**

IP66/67, type 4X enclosure

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**Density/Concentration****Display/Operation**

4-line backlit display with touch control (operation from outside)  
Configuration via local display and operating tools possible  
Remote display available

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**Outputs**

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

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**Inputs**

None

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**Digital communication**

HART, PROFIBUS PA, FOUNDATION Fieldbus

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**Power supply**

DC 18 to 35 V (4-20 mA HART with/without pulse/frequency/switch)  
DC 18 to 30 V (20 mA HART, 4-20 mA)  
DC 9 to 32 V (PROFIBUS PA)

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**Hazardous area approvals**

ATEX, IECEx, cCSAus, INMETRO, NEPSI, JPN, UK Ex

---

**Product safety**

CE, C-TICK

---

**Functional safety**

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

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**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)

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Density/Concentration

**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

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**Hygienic approvals and certificates**

3-A, EHEDG, cGMP

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