

Proline Promass I 100 Coriolis flowmeter

Combines in-line viscosity and flow measurement with an ultra-compact transmitter



Benefits:

- Energy-saving – full bore design enables minimal pressure loss
- 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

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ± 0.1 % Volume flow (liquid): ± 0.1 % Mass flow (gas): ± 0.5 % Density (liquid): ± 0.0005 g/cm³
- **Measuring range** 0 to 180 000 kg/h (0 to 6600 lb/min)
- **Medium temperature range** -50 to $+150$ °C (-58 to $+302$ °F)
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: Titanium grade 9 Connection: Titanium grade 2

Field of application: The straight single-tube design of the Promass I 100, provides the regular Coriolis flowmeter outputs of mass flow, density and temperature, additionally it provides in-line viscosity measurement as an optional output. Combined with the smallest transmitter housing available today it delivers full performance on the smallest footprint. Promass I 100 will be the preferred choice for system integrators, skid builders and equipment manufacturers.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features

Energy-saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

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

Wetted materials

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

Measured variables

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

Liquids

Max. measurement errorMass flow (liquid): $\pm 0.1\%$ Volume flow (liquid): $\pm 0.1\%$ Mass flow (gas): $\pm 0.5\%$ Density (liquid): $\pm 0.0005 \text{ g/cm}^3$ **Measuring range**

0 to 180 000 kg/h (0 to 6600 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range -50 to $+150\text{ }^{\circ}\text{C}$ (-58 to $+302\text{ }^{\circ}\text{F}$)**Ambient temperature range**Standard: -40 to $+60\text{ }^{\circ}\text{C}$ (-40 to $+140\text{ }^{\circ}\text{F}$)Option: -50 to $+60\text{ }^{\circ}\text{C}$ (-58 to $+140\text{ }^{\circ}\text{F}$)**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

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

Outputs

4-20 mA HART (active)

Pulse/frequency/switch output (passive)

Liquids

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, INMETRO, NEPSI, 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)

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Gas

Measuring principle

Coriolis

Gas

Product headline

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features

Energy-saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

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

Wetted materials

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.1 %

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.5 %

Density (liquid): ± 0.0005 g/cm³

Gas

Measuring range

0 to 180 000 kg/h (0 to 6600 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

–50 to +150 °C (–58 to +302 °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)

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

Outputs

4-20 mA HART (active)

Pulse/frequency/switch output (passive)

Inputs

None

Digital communication

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

Gas**Power supply**

DC 20 to 30 V

Hazardous area approvals

ATEX, IECEx, cCSAus, INMETRO, NEPSI

Metrological approvals and certificates

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Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Density/Concentration**Measuring principle**

Coriolis

Product headline

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

Measuring liquids and gases in applications requiring low pressure loss and gentle fluid treatment.

Sensor features

Energy-saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

Density/Concentration

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

Wetted materials

Measuring tube: Titanium grade 9
Connection: Titanium grade 2

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.1 %
Volume flow (liquid): ± 0.1 %
Mass flow (gas): ± 0.5 %
Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 180 000 kg/h (0 to 6600 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

-50 to +150 °C (-58 to +302 °F)

Ambient temperature range

Standard: -40 to +60 °C (-40 to +140 °F)
Option: -50 to +60 °C (-58 to +140 °F)

Density/Concentration**Sensor housing material**

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

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

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, INMETRO, NEPSI, EAC

Product safety

CE, C-Tick, EAC marking

Density/Concentration

Metrological approvals and certificates

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Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP

Viscosity

Measuring principle

Coriolis

Product headline

Combines in-line viscosity and flow measurement with an ultra-compact transmitter.

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Sensor features

Energy-saving – full-bore design enables minimal pressure loss. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Straight, easy-to-clean single-tube system. TMB technology. Measuring tube made of Titanium.

Viscosity

Transmitter features

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Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

Nominal diameter range

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

Wetted materials

Measuring tube: Titanium grade 9

Connection: Titanium grade 2

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.1 %

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.5 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 180 000 kg/h (0 to 6600 lb/min)

Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

-50 to +150 °C (-58 to +302 °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

Viscosity

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

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

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, INMETRO, NEPSI, EAC

Product safety

CE, C-Tick, EAC marking

Metrological approvals and certificates

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Heartbeat Technology complies with the requirements for measurement traceability according to ISO 9001:2015 – Section 7.1.5.2 a (TÜV SÜD attestation)

Viscosity

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, cGMP



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