

Proline Promass O 100 Coriolis flowmeter

The robust high-pressure flowmeter with an ultra-compact transmitter



Benefits:

- Maximum safety – highest resistance to stress corrosion cracking
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- 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

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ± 0.1 (standard), 0.05 % (option) Volume flow (liquid): ± 0.1 % Mass flow (gas): ± 0.35 % Density (liquid): ± 0.0005 g/cm³
- **Measuring range** 0 to 800 000 kg/h (0 to 29 400 lb/min)
- **Medium temperature range** -40 to $+205$ °C (-40 to $+401$ °F)
- **Max. process pressure** PN 250, Class 1500
- **Wetted materials** Measuring tube: 25Cr duplex (Super Duplex), 1.4410 (UNS S32750) Connection: 25Cr duplex (Super Duplex), 1.4410 (F53) Measuring tube: 1.4539 (904L) Connection

Field of application: Promass O is designed for premium accuracy of liquids and gases at the highest process pressures in the oil and gas industry. The sensor is fully suitable for offshore conditions and resistant to stress corrosion cracking. Promass O 100 delivers full performance on the smallest footprint with its ultra-compact transmitter and thus enables seamless system integration. Heartbeat Technology enables process safety at all times.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Robust high-pressure flowmeter with an ultra-compact transmitter. For premium accuracy at highest process pressures, fully suitable for offshore conditions.

Sensor features

Maximum safety – highest resistance to stress corrosion cracking. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Measuring tube in 25Cr Duplex, 1.4410 (UNS S32750). Process pressure up to PN 250 (Class 1500). Nominal diameter: DN 80 to 150 (3 to 6").

Transmitter features

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

Nominal diameter range

DN 80 to 150 (3 to 6")

Wetted materials

Measuring tube: 25Cr duplex (Super Duplex), 1.4410 (UNS S32750)
Connection: 25Cr duplex (Super Duplex), 1.4410 (F53)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow (API tables), reference density, concentration

Liquids

Max. measurement error

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

Volume flow (liquid): ± 0.1 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 800 000 kg/h (0 to 29 400 lb/min)

Max. process pressure

PN 250, Class 1500

Medium temperature range

-40 to +205 °C (-40 to +401 °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

1.4404 (316L), highest corrosion resistance

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 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

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)

Marine approvals and certificates

LR approval, DNV approval, ABS approval, BV approval, CCS 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

Measuring principle

Coriolis

Gas

Product headline

Robust high-pressure flowmeter with an ultra-compact transmitter.
For premium accuracy at highest process pressures, fully suitable for offshore conditions.

Sensor features

Maximum safety – highest resistance to stress corrosion cracking. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Measuring tube in 25Cr Duplex, 1.4410 (UNS S32750). Process pressure up to PN 250 (Class 1500). Nominal diameter: DN 80 to 250 (3 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. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

Nominal diameter range

DN 80 to 150 (3 to 6")

Wetted materials

Measuring tube: 25Cr duplex (Super Duplex), 1.4410 (UNS S32750)
Connection: 25Cr duplex (Super Duplex), 1.4410 (F53)
Measuring tube: 1.4539 (904L)
Connection

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow (API tables), reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 (standard), 0.05 % (option)
Volume flow (liquid): ± 0.1 %
Mass flow (gas): ± 0.35 %
Density (liquid): ± 0.0005 g/cm³

Gas

Measuring range

0 to 800 000 kg/h (0 to 29 400 lb/min)

Max. process pressure

PN 250, Class 1500

Medium temperature range

−40 to +205 °C (−40 to +401 °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

1.4404 (316L), highest corrosion resistance

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 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

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

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

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LR approval, DNV approval, ABS approval, BV approval, CCS 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**Measuring principle**

Coriolis

Product headline

Robust high-pressure flowmeter with an ultra-compact transmitter. For premium accuracy at highest process pressures, fully suitable for offshore conditions.

Density/Concentration

Sensor features

Maximum safety – highest resistance to stress corrosion cracking. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. Measuring tube in 25Cr Duplex, 1.4410 (UNS S32750). Process pressure up to PN 250 (Class 1500). Nominal diameter: DN 80 to 250 (3 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. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

Nominal diameter range

DN 80 to 150 (3 to 6")

Wetted materials

Measuring tube: 25Cr duplex (Super Duplex), 1.4410 (UNS S32750)
Connection: 25Cr duplex (Super Duplex), 1.4410 (F53)

Measured variables

Mass flow, density, temperature, volume flow, corrected volume flow (API tables), reference density, concentration

Max. measurement error

Mass flow (liquid): ± 0.1 (standard), 0.05 % (option)
Volume flow (liquid): ± 0.1 %
Mass flow (gas): ± 0.35 %
Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 800 000 kg/h (0 to 29 400 lb/min)

Max. process pressure

PN 250, Class 1500

Medium temperature range

-40 to +205 °C (-40 to +401 °F)

Density/Concentration

Ambient temperature range

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

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

Sensor housing material

1.4404 (316L), highest corrosion resistance

Transmitter housing material

Compact: AlSi10Mg, coated

Compact/ultra-compact: 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

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

Density/Concentration

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

LR approval, DNV approval, ABS approval, 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



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