

Proline Promass X 300 Coriolis flowmeter

Highest capacity four-tube flowmeter with a compact, easily accessible transmitter



Benefits:

- Increased profit – single installation point providing premium accuracy for large quantities
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in-/outlet run needs
- Full access to process and diagnostic information – numerous, freely combinable I/Os and Ethernet
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

Specs at a glance

- **Max. measurement error** Mass flow (liquid): $\pm 0.10\%$ (standard), 0.05% (option) Volume flow (liquid): $\pm 0.10\%$ Mass flow (gas): $\pm 0.35\%$ Density (liquid): $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 4100 t/h (0 to 4520 tn. sh./h)
- **Medium temperature range** -50 to $+180^\circ\text{C}$ (-58 to $+356^\circ\text{F}$)
- **Max. process pressure** PN 100, Class 600
- **Wetted materials** Measuring tube: 1.4404 (316/316L)
Connection: 1.4404 (316/316L)

Field of application: The patented four-tube Promass X provides premium accuracy (0.05%) for highest capacity and offers an outstanding performance in on- and offshore applications in the oil and gas industry. With its compact transmitter Promass X 300 offers a high flexibility in terms of operation and system integration: access from one side, remote display and improved connectivity options. Heartbeat Technology enables measurement reliability and compliant verification.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Highest capacity four-tube flowmeter with a compact, easily accessible transmitter.

For highest flow rates and outstanding performance in on/offshore oil and gas applications.

Sensor features

Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop. Complete exterior design made of 1.4435 (316L).

Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os.

Nominal diameter range

DN 300 to 400 (12 to 16")

Wetted materials

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

Measured variables

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

Liquids

Max. measurement error

Mass flow (liquid): ± 0.10 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 4100 t/h (0 to 4520 tn. sh./h)

Max. process pressure

PN 100, Class 600

Medium temperature range

-50 to +180 °C (-58 to +356 °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

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L

Degree of protection

IP66/67, type 4X enclosure

Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

Remote display available"

Liquids

Outputs

3 outputs:

4-20 mA HART (active/passive)

4-20 mA WirelessHART

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Double pulse output (active/passive)

Relay output

Inputs

Status input

4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, PROFINET, PROFINET over Ethernet-APL, Ethernet/IP, OPC-UA

Power supply

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex, KC

Product safety

CE, C-tick, EAC marking

Functional safety

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

Liquids

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)

MI-005 Liquids other than water (Hydrocarbons), LPG, cryogenic
MI-002, PTB

Marine approvals and certificates

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

Pressure approvals and certificates

PED, CRN

Material certificates

3.1 material

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

Gas

Measuring principle

Coriolis

Product headline

Highest capacity four-tube flowmeter with a compact, easily accessible transmitter.

For highest flow rates and outstanding performance in on/offshore oil and gas applications.

Sensor features

Increased profit – single installation point providing premium accuracy for large quantities. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Nominal diameter: DN 300 to 400 (12 to 16"). Four-tube system with low pressure drop. Complete exterior design made of 1.4435 (316L).

Gas

Transmitter features

Full access to process and diagnostic information – numerous, freely combinable I/Os and fieldbuses. Reduced complexity and variety – freely configurable I/O functionality. Integrated verification – Heartbeat Technology.

Compact dual-compartment housing with up to 3 I/Os.

Nominal diameter range

DN 300 to 400 (12 to 16")

Wetted materials

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.10 % (standard), 0.05 % (option)

Volume flow (liquid): ± 0.10 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Measuring range

0 to 4100 t/h (0 to 4520 tn. sh./h)

Max. process pressure

PN 100, Class 600

Medium temperature range

-50 to +180 °C (-58 to +356 °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

Gas

Transmitter housing material

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L

Degree of protection

IP66/67, type 4X enclosure

Display/Operation

4-line backlit display with touch control (operation from outside)

Configuration via local display and operating tools possible

Remote display available

Outputs

3 outputs:

4-20 mA HART (active/passive)

4-20 mA WirelessHART

4-20 mA (active/passive)

Pulse/frequency/switch output (active/passive)

Double pulse output (active/passive)

Relay output

Inputs

Status input

4-20 mA input

Digital communication

HART, PROFIBUS DP, PROFIBUS PA, FOUNDATION Fieldbus, Modbus RS485, PROFINET, PROFINET over Ethernet-APL, Ethernet/IP, OPC-UA

Power supply

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

Hazardous area approvals

ATEX, IECEx, cCSAus, NEPSI, INMETRO, EAC, UK Ex, KC

Product safety

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Gas

Functional safety

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Material certificates

3.1 material

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Density/Concentration

Measuring principle

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Density/Concentration

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Transmitter features

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Compact dual-compartment housing with up to 3 I/Os.

Nominal diameter range

DN 300 to 400 (12 to 16")

Wetted materials

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

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Density (liquid): ± 0.0005 g/cm³

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Max. process pressure

PN 100, Class 600

Density/Concentration**Medium temperature range**

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Status input

4–20 mA input

Digital communication

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Density/Concentration**Power supply**

DC 24 V

AC 100 to 230 V

AC 100 to 230 V / DC 24 V (non-hazardous area)

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3.1 material

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