

# Кориолисовые массовые расходомеры Promass X 500

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# Proline Promass X 500 Coriolis flowmeter

Highest capacity four-tube flowmeter, as remote version with up to 4 I/Os



## 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  $+180 \text{ }^\circ\text{C}$  ( $-58$  to  $+356 \text{ }^\circ\text{F}$ )
- **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 innovative remote transmitter Promass X 500 maximizes installation flexibility and operational safety in demanding environments. Heartbeat Technology enables measurement reliability and compliant verification.

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## Features and specifications

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### Liquids

**Measuring principle**

Coriolis

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**Product headline**

Highest capacity four-tube flowmeter, as remote version with up to 4 I/Os.

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

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**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).

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**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.

Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

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**Nominal diameter range**

DN 300 to 400 (12 to 16")

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**Wetted materials**

Measuring tube: 1.4404 (316/316L)

Connection: 1.4404 (316/316L)

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**Measured variables**

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

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## Liquids

**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):  $\pm 0.0005$  g/cm<sup>3</sup>

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**Measuring range**

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

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**Max. process pressure**

PN 100, Class 600

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**Medium temperature range**

-50 to +180 °C (-58 to +356 °F)

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**Ambient temperature range**

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

Option: -60 to +60 °C (-76 to +140 °F)

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**Sensor housing material**

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): 1.4409 (CF3M), similar to 316L

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**Transmitter housing material**

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

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**Degree of protection**

Sensor remote version (standard): IP66/67, type 4X enclosure

Sensor remote version (option): IP69. Transmitter remote version:

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

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## Liquids

### Outputs

4 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

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### Inputs

Status input

4-20 mA input

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### Digital communication

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

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### 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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### Hazardous area approvals

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

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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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## 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, as remote version with up to 4 I/Os.

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.

Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

**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):  $\pm 0.10$  % (standard), 0.05 % (option)

Volume flow (liquid):  $\pm 0.10$  %

Mass flow (gas):  $\pm 0.35$  %

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

**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: -60 to +60 °C (-76 to +140 °F)

## Gas

**Sensor housing material**

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): 1.4409 (CF3M), similar to 316L

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**Transmitter housing material**

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

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**Display/Operation**

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

Configuration via local display and operating tools possible

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**Outputs**

4 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

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**Inputs**

Status input

4-20 mA input

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**Digital communication**

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

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**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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## Gas

**Hazardous area approvals**

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

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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**

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**Marine approvals and certificates**

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**Pressure approvals and certificates**

PED, CRN

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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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## Density/Concentration

**Measuring principle**

Coriolis

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## Density/Concentration

### Product headline

Highest capacity four-tube flowmeter, as remote version with up to 4 I/Os.

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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

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### 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):  $\pm 0.10$  % (standard), 0.05 % (option)

Volume flow (liquid):  $\pm 0.10$  %

Mass flow (gas):  $\pm 0.35$  %

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

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**Density/Concentration****Measuring range**

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

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**Max. process pressure**

PN 100, Class 600

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**Medium temperature range**

-50 to +180 °C (-58 to +356 °F)

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**Ambient temperature range**

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

Option: -60 to +60 °C (-76 to +140 °F)

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**Sensor housing material**

1.4404 (316L), highest corrosion resistance

Sensor connection housing (standard): 1.4409 (CF3M), similar to 316L

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**Transmitter housing material**

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Sensor remote version (standard): 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

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**Outputs**

4 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

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**Density/Concentration****Inputs**

Status input  
4-20 mA input

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**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)

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**Hazardous area approvals**

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

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**Product safety**

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MI-002, PTB

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Density/Concentration

**Material certificates**

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