

# Proline Promass A 300 Coriolis flowmeter

Accurate single-tube flowmeter for lowest flow rates with a compact, easily accessible transmitter



Thông tin thêm và mức tính giá hiện tại:

[www.apsc.endress.com/8A3C](http://www.apsc.endress.com/8A3C)

## Lợi ích:

- Space-saving installation – compact, lightweight sensor
- Highest product quality – self-drainable measuring tube design in all line sizes
- Optimum process safety – resistant to corrosive ambient conditions and internal clogging
- 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

## Tổng quan về thông số kỹ thuật

- **Max. measurement error** Mass flow (liquid):  $\pm 0.1\%$  Volume flow (liquid):  $\pm 0.1\%$  Mass flow (gas):  $\pm 0.35\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 450 kg/h (0 to 16.54 lb/min)
- **Medium temperature range** -50 to 205 °C (-58 to 401 °F)
- **Max. process pressure** 430.9 bar (6250 psi)
- **Wetted materials** Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

**Phạm vi ứng dụng:** Promass A is ideal for continuous process control in very demanding applications. Its unique self-drainable single-tube system enables accurate measurement of liquids and gases at lowest flow rates and high pressure. With its compact transmitter Promass A 300 offers high flexibility in terms of operation and system integration: access

from one side, remote display, improved connectivity options. Heartbeat Technology ensures measurement reliability and compliant verification.

## Tín năng và thông số kỹ thuật

### Density/Concentration

#### Measuring principle

Coriolis

#### Product headline

Accurate single-tube flowmeter for lowest flow rates with a compact, easily accessible transmitter.  
Suitable for applications with smallest flow quantities in all industries.

#### Sensor features

Space-saving installation – compact, lightweight sensor. Highest product quality – self-drainable measuring tube design in all line sizes. Optimum process safety – resistant to corrosive ambient conditions and internal clogging.

Nominal diameter: DN 1 to 4 ( $\frac{1}{2}$ " to  $\frac{1}{8}$ "). Process pressure up to 430.9 bar (6250 psi). Medium temperature up to +205 °C (+401 °F).

#### 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. Backlit display with touch control and WLAN access. Remote display available.

#### Nominal diameter range

DN 1 to 4 ( $\frac{1}{2}$ " to  $\frac{1}{8}$ ")

#### Wetted materials

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

#### Measured variables

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

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**Density/Concentration****Max. measurement error**Mass flow (liquid):  $\pm 0.1\%$ Volume flow (liquid):  $\pm 0.1\%$ Mass flow (gas):  $\pm 0.35\%$  Density (liquid):  $\pm 0.0005\text{ g/cm}^3$ 

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**Measuring range**0 to 450 kg/h (0 to 16.54 lb/min)

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**Max. process pressure**430.9 bar (6250 psi)

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**Medium temperature range**-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**Stainless steel, 1.4404 (316L)

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**Transmitter housing material**AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

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**Degree of protection**

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

IP69

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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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**Density/Concentration****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, 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, INMETRO, NEPSI, 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

**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

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### Material certificates

3.1 material

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### Hygienic approvals and certificates

3-A, cGMP

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## Liquids

### Measuring principle

Coriolis

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### Product headline

Accurate single-tube flowmeter for lowest flow rates with a compact, easily accessible transmitter.

Suitable for applications with smallest flow quantities in all industries.

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### Sensor features

Space-saving installation – compact, lightweight sensor. Highest product quality – self-drainable measuring tube design in all line sizes. Optimum process safety – resistant to corrosive ambient conditions and internal clogging.

Nominal diameter: DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ "). Process pressure up to 430.9 bar (6250 psi). Medium temperature up to +205 °C (+401 °F).

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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.

Compact dual-compartment housing with up to 3 I/Os. Backlit display with touch control and WLAN access. Remote display available.

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### Nominal diameter range

DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ ")

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## Liquids

**Wetted materials**

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

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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):  $\pm 0.35$  % Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

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**Measuring range**

0 to 450 kg/h (0 to 16.54 lb/min)

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**Max. process pressure**

430.9 bar (6250 psi)

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**Medium temperature range**

-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**

Stainless steel, 1.4404 (316L)

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**Transmitter housing material**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

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**Degree of protection**

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

IP69

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## Liquids

### 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

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

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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, 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, INMETRO, NEPSI, 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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## Liquids

### **Metrological approvals and certificates**

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### **Pressure approvals and certificates**

CRN

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### **Material certificates**

3.1 material

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### **Hygienic approvals and certificates**

3-A, cGMP

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## Gas

### **Measuring principle**

Coriolis

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### **Product headline**

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### **Sensor features**

Space-saving installation – compact, lightweight sensor. Highest product quality – self-drainable measuring tube design in all line sizes. Optimum process safety – resistant to corrosive ambient conditions and internal clogging.

Nominal diameter: DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ "). Process pressure up to 430.9 bar (6250 psi). Medium temperature up to +205 °C (+401 °F).

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## 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. Backlit display with touch control and WLAN access. Remote display available.

**Nominal diameter range**

DN 1 to 4 ( $\frac{1}{24}$  to  $\frac{1}{8}$ "

**Wetted materials**

Measuring tube: stainless steel, 1.4435 (316/316L); Alloy C22

**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):  $\pm 0.35$  % Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

**Measuring range**

0 to 450 kg/h (0 to 16.54 lb/min)

**Max. process pressure**

430.9 bar (6250 psi)

**Medium temperature range**

-50 to 205 °C (-58 to 401 °F)

**Ambient temperature range**

-40 to 60 °C (-40 to +140 °F)

**Sensor housing material**

Stainless steel, 1.4404 (316L)

## Gas

**Transmitter housing material**

AlSi10Mg, coated; 1.4409 (CF3M) similar to 316L; stainless steel for hygienic transmitter design

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**Degree of protection**

Compact version: IP66/67, type 4X enclosure.

External WLAN antenna: IP67

IP69

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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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**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

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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, 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, INMETRO, NEPSI, UK Ex

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Gas

**Product safety**

CE, C-TICK

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**Functional safety**

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**Pressure approvals and certificates**

CRN

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**Material certificates**

3.1 material

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**Hygienic approvals and certificates**

3-A, cGMP

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