

# Proline Cubemass C 300 Coriolis flowmeter

Compact sensor for smallest quantities with a compact, easily accessible transmitter



More information and current pricing:

[www.jp.endress.com/8C3B](http://www.jp.endress.com/8C3B)

## Benefits:

- Space-saving installation – compact single-tube design
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Suitable for skids – lightweight sensor
- 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

## Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.10\%$  Volume flow (liquid):  $\pm 0.10\%$  Mass flow (gas):  $\pm 0.50\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 1000 kg/h (0 to 37 lb/min)
- **Medium temperature range**  $-50$  to  $+205 \text{ }^\circ\text{C}$  ( $-58$  to  $+401 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 40, Class 300, 10K, 400 bar (5800 psi)
- **Wetted materials** Measuring tube: 1.4539 (904L) Connection: 1.4539 (904L); 1.4404 (316/316L)

**Field of application:** Cubemass C is the ideal sensor for the measurement of smallest flow rates in skids, test rigs and industrial robotics. Neither high pressure nor alternating flow conditions compromise its accuracy. With its compact transmitter Cubemass C 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.

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## Features and specifications

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### Density/Concentration

**Measuring principle**

Coriolis

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**Product headline**

Compact sensor for smallest quantities with a compact, easily accessible transmitter.

Measuring accurately smallest quantities of liquids and gases.

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**Sensor features**

Space-saving installation – compact single-tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Suitable for skids – lightweight sensor.

Nominal diameter: DN 1 to 6 ( $\frac{1}{2}$ " to  $\frac{1}{4}$ "). Process pressure up to 400 bar (5800 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 6 ( $\frac{1}{2}$ " to  $\frac{1}{4}$ ")

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**Wetted materials**

Measuring tube: 1.4539 (904L)

Connection: 1.4539 (904L); 1.4404 (316/316L)

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**Measured variables**

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

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**Density/Concentration****Max. measurement error**

Mass flow (liquid):  $\pm 0.10\%$  Volume flow (liquid):  $\pm 0.10\%$  Mass flow (gas):  $\pm 0.50\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$

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**Measuring range**

0 to 1000 kg/h (0 to 37 lb/min)

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**Max. process pressure**

PN 40, Class 300, 10K, 400 bar (5800 psi)

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**Medium temperature range**

$-50$  to  $+205 \text{ }^\circ\text{C}$  ( $-58$  to  $+401 \text{ }^\circ\text{F}$ )

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**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  $+140 \text{ }^\circ\text{F}$ )

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**Sensor housing material**

1.4301 (304), corrosion resistant

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**Transmitter housing material**

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

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**Degree of protection**

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  
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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## Density/Concentration

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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, NEPSI, INMETRO, EAC, UK Ex

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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

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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### Pressure approvals and certificates

CRN

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### Material certificates

3.1 material

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## Gas

**Measuring principle**

Coriolis

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Compact sensor for smallest quantities with a compact, easily accessible transmitter.

Measuring accurately smallest quantities of liquids and gases.

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**Sensor features**

Space-saving installation – compact single-tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Suitable for skids – lightweight sensor.

Nominal diameter: DN 1 to 6 ( $\frac{1}{24}$  to  $\frac{1}{4}$ " ). Process pressure up to 400 bar (5800 psi). Medium temperature up to +205 °C (+401 °F).

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**Transmitter features**

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

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**Wetted materials**

Measuring tube: 1.4539 (904L)

Connection: 1.4539 (904L); 1.4404 (316/316L)

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**Measured variables**

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

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## Gas

**Max. measurement error**Mass flow (liquid):  $\pm 0.10\%$ Volume flow (liquid):  $\pm 0.10\%$ Mass flow (gas, Tantalum only):  $\pm 0.50\%$ Density (liquid):  $\pm 0.0005\text{ g/cm}^3$ **Measuring range**

0 to 1000 kg/h (0 to 37 lb/min)

**Max. process pressure**

PN 40, Class 300, 10K, 400 bar (5800 psi)

**Medium temperature range**Tantalum:  $-50$  to  $+150\text{ }^\circ\text{C}$  ( $-58$  to  $+302\text{ }^\circ\text{F}$ )Zirconium:  $-50$  to  $+205\text{ }^\circ\text{C}$  ( $-58$  to  $+401\text{ }^\circ\text{F}$ )**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**

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**Gas****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, NEPSI, INMETRO, EAC, UK Ex

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**Gas****Pressure approvals and certificates**PED, CRN

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**Material certificates**3.1 material

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**Liquids****Measuring principle**Coriolis

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**Nominal diameter range**DN 1 to 6 ( $\frac{1}{24}$  to  $\frac{1}{4}$ " )

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**Wetted materials**

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Connection: 1.4539 (904L); 1.4404 (316/316L)

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## Liquids

**Measured variables**

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

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**Max. measurement error**

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

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

Mass flow (gas):  $\pm 0.50$  %

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

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**Measuring range**

0 to 1000 kg/h (0 to 37 lb/min)

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**Max. process pressure**

PN 40, Class 300, 10K, 400 bar (5800 psi)

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**Medium temperature range**

-50 to +205 °C (-58 to +401 °F)

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**Ambient temperature range**

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

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

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**Sensor housing material**

1.4301 (304), corrosion resistant

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**Transmitter housing material**

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

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**Degree of protection**

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

3 outputs:

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4-20 mA WirelessHART

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Double pulse output (active/passive)

Relay output

### Inputs

Status input

4-20 mA input

### Digital communication

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### Power supply

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## Liquids

### Pressure approvals and certificates

CRN

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### Material certificates

3.1 material

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