Proline Cubemass C 300
Coriolis flowmeter

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

More information and current pricing:
www.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 Ethernet
- Reduced complexity and variety – freely configurable I/O functionality
- Integrated verification – Heartbeat Technology

Specs at a glance

- **Max. measurement error** Mass flow (liquid): ±0.10 % Volume flow (liquid): ±0.10 % Mass flow (gas): ±0.50 % Density (liquid): ±0.0005 g/cm3
- **Measuring range** 0 to 1000 kg/h (0 to 37 lb/min)
- **Medium temperature range** −50 to +205 °C (−58 to +401 °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 enables measurement reliability and compliant verification.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Compact sensor for smallest quantities with a compact, easily accessible transmitter.
Measuring accurately smallest quantities of liquids and gases.

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 (1/24 to ¼"). Process pressure up to 400 bar (5800 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 6 (1/24 to ¼")

Wetted materials

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

Measured variables

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

Liquids

Max. measurement error
Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas): ±0.50 %
Density (liquid): ±0.0005 g/cm3

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
−50 to +205 °C (−58 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
1.4301 (304), corrosion resistant

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, 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

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)

Liquids

Pressure approvals and certificates
CRN

Material certificates
3.1 material

Gas

Measuring principle
Coriolis

Product headline
Compact sensor for smallest quantities with a compact, easily accessible transmitter.
Measuring accurately smallest quantities of liquids and gases.

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 (1/24 to ¼"). Process pressure up to 400 bar (5800 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 6 (1/24 to ¼")

Wetted materials
Measuring tube: 1.4539 (904L)
Connection: 1.4539 (904L); 1.4404 (316/316L)

Gas

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

Max. measurement error
Mass flow (liquid): ±0.10 %
Volume flow (liquid): ±0.10 %
Mass flow (gas, Tantalum only): ±0.50 %
Density (liquid): ±0.0005 g/cm³

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
−50 to +205 °C (−58 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
1.4301 (304), corrosion resistant

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"

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, 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, UK Ex, KC

Product safety

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Functional safety

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Gas

Pressure approvals and certificates
PED, CRN

Material certificates
3.1 material

Density/Concentration

Measuring principle
Coriolis

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Measuring accurately smallest quantities of liquids and gases.

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 (1/24 to 1/4"). Process pressure up to 400 bar (5800 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 6 (1/24 to 1/4")

Wetted materials
Measuring tube: 1.4539 (904L)
Connection: 1.4539 (904L); 1.4404 (316/316L)

Density/Concentration

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

Max. measurement error
Mass flow (liquid): ±0.10 % Volume flow (liquid): ±0.10 % Mass flow (gas): ±0.50 % Density (liquid): ±0.0005 g/cm3

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
–50 to +205 °C (–58 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
1.4301 (304), corrosion resistant

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

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, 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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Density/Concentration

Pressure approvals and certificates

CRN

Material certificates

3.1 material

More information **www.endress.com/8C3B**

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