

# Nanomass Gas Density

## The device for continuous gas density measurement in the process



### Benefits:

- High process safety and product quality – permanente process monitoring in real time
- Increased process efficiency – continuous measurement and fast response time
- High availability – maintenance-free
- Complete data transparency – integrated data logger
- Excellent price/performance ratio – multivariable measurement (temperature, pressure, concentration)
- Reliable – insensitive to vibrations

More information and current pricing:

[www.endress.com/DCEB](http://www.endress.com/DCEB)

**Field of application:** Nanomass Gas Density is the first device for precise gas density measurement based on the revolutionary MEMS-Coriolis technology – a combination of innovative micro-technology and Endress+Hauser's long experience. For the first time, under economically attractive conditions parameters such as gas density or quality can be monitored continuously in the process. Nanomass Gas Density can be easily integrated into any existing process infrastructure.

### Features and specifications

Density

**Measuring principle**

MEMS coriolis

## Density

### Sensor features

High process safety and product quality – permanent process monitoring in real time. Increased process efficiency – continuous measurement and fast response time. High availability – maintenance - free. Integrated pressure and temperature measurement. Different hazardous area approvals available.

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### Transmitter features

Complete data transparency – integrated data logger. Excellent price/performance ratio – multivariable measurement (temperature, pressure, concentration). Reliable – insensitive to vibrations. 2 - line backlit display with push buttons.

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### Nominal diameter range

DN 0.7 (1/36")

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### Wetted materials

Micro channel:

Silicon; Schott Borofloat 33

Manifold

1.4542 (17 - 4 PH)

Connection:

Swagelok, 1.4404 (316L)

Pressure sensor:

1.4404 (316L)

O - ring: Viton

Process membrane: Ceramics (Al<sub>2</sub>O<sub>3</sub>)

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### Measured variables

Density, temperature, pressure, reference density, average molar mass, concentration

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### Max. measurement error

Density (gas):  $\pm 0.1 \text{ kg/m}^3$

Temperature:  $\pm 0.5^\circ\text{C}$

Pressure:  $\pm 0.02 \text{ bar}$

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**Density****Measuring range**

0 to 30 kg/m<sup>3</sup> (0 to 0.03 g/cm<sup>3</sup>, 0 to 0.03 SGU)

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**Max. process pressure**

20 bar (290 psi)

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**Medium temperature range**

-20 to +60 °C (-4 to +140 °F)

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**Ambient temperature range**

-20 to +60 °C (-4 to +140 °F)

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**Transmitter housing material**

Powder - coated aluminium

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**Degree of protection**

Standard: IP65/67

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**Display/Operation**

2 - line backlit display with push buttons

Configuration via local display and operating tools possible

USB or RS232 interface

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**Outputs**

2 outputs:

4 - 20 mA (passive)

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**Inputs**

None

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**Power supply**

DC 8 to 28 V

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**Hazardous area approvals**

ATEX, IECEx, UL C/US Cl. I

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**Other approvals and certificates**

Calibration

NAMUR

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**Density/Concentration****Measuring principle**MEMS coriolis

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**Product headline**

The device for continuous gas density measurement in the process. Highly accurate density and concentration measurement of non - corrosive, inflammable, non - inflammable gases and gas mixtures.

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