

# Кориолисовые массовые расходомеры Promass H 100, H 300, H 500

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Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

эл.почта: [ehr@nt-rt.ru](mailto:ehr@nt-rt.ru) || сайт: <https://endcounters.nt-rt.ru/>

# Proline Promass H 100 Coriolis flowmeter

## The chemically resistant single-tube flowmeter with an ultra-compact transmitter



### Benefits:

- Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Space-saving transmitter – full functionality on the smallest footprint
- Time-saving local operation without additional software and hardware – integrated web server
- Integrated verification – Heartbeat Technology

### Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.1\%$  Volume flow (liquid):  $\pm 0.1\%$  Mass flow (gas, Tantalum only):  $\pm 0.5\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 70 000 kg/h (0 to 2570 lb/min)
- **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  $+401 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 40, Class 300, 20K
- **Wetted materials** Measuring tube: Tantalum 2.5W; 702 (UNS R60702) Connection: Tantalum; 702 (UNS R60702)

**Field of application:** The chemically resistant single-tube design of the Promass H is destined for applications requiring highest corrosion resistance. Combined with the smallest transmitter housing available today it delivers full performance on the smallest footprint. Designed for applications where space is a premium, Promass H 100 will be the preferred choice for system integrators, skid builders and equipment manufacturers.

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## Features and specifications

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### Liquids

**Measuring principle**

Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter with an ultra-compact transmitter.

Measuring highly accurately liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). Medium temperature up to +205 °C (+401 °F).

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**Transmitter features**

Space-saving transmitter – full functionality on the smallest footprint. Time-saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

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**Nominal diameter range**

DN 8 to 50 ( $\frac{3}{8}$  to 2")

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**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

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**Measured variables**

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

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## Liquids

**Max. measurement error**

Mass flow (liquid):  $\pm 0.1$  %

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas, Tantalum only):  $\pm 0.5$  %

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

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**Measuring range**

0 to 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**

PN 40, Class 300, 20K

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**Medium temperature range**

Tantalum:  $-50$  to  $+150$  °C ( $-58$  to  $+302$  °F)

Zirconium:  $-50$  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**

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

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**Degree of protection**

Standard: IP66/67, type 4X enclosure

Option: IP69

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**Display/Operation**

4-line backlit display available (no local operation)

Configuration via web browser and operating tools possible

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**Outputs**

4-20 mA HART (active)

Pulse/frequency/switch output (passive)

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## Liquids

**Inputs**

None

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**Digital communication**

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

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**Power supply**

DC 20 to 30 V

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**Hazardous area approvals**

ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

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**Product safety**

CE, C-Tick, EAC marking

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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 traceable verification according to ISO 9001:2008 – Section 7.6a (TÜV SÜD attestation)

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**Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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## Gas

**Measuring principle**

Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter with an ultra-compact transmitter.

Measuring highly accurately liquids and gases in applications requiring highest corrosion resistance.

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## Gas

**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). Medium temperature up to +205 °C (+401 °F).

**Transmitter features**

Space-saving transmitter – full functionality on the smallest footprint. Time-saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology. Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

**Nominal diameter range**

DN 8 to 50 ( $\frac{3}{8}$  to 2")

**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

**Measured variables**

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

**Max. measurement error**

Mass flow (liquid):  $\pm 0.1$  %

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas, Tantalum only):  $\pm 0.5$  %

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

**Measuring range**

0 to 70 000 kg/h (0 to 2570 lb/min)

**Max. process pressure**

PN 40, Class 300, 20K

## Gas

**Medium temperature range**

Tantalum: -50 to +150 °C (-58 to +302 °F)

Zirconium: -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**

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

**Degree of protection**

Standard: IP66/67, type 4X enclosure

Option: IP69

**Display/Operation**

4-line backlit display available (no local operation)

Configuration via web browser and operating tools possible

**Outputs**

4-20 mA HART (active)

Pulse/frequency/switch output (passive)

**Inputs**

None

**Digital communication**

HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

**Power supply**

DC 20 to 30 V

**Hazardous area approvals**

ATEX, IECEx, cCSAus, INMETRO, NEPSI

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**Gas****Product safety**

CE, C-Tick, EAC marking

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**Metrological approvals and certificates**

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025), NAMUR

Heartbeat Technology complies with the requirements for traceable verification according to ISO 9001:2008 – Section 7.6a (TÜV SÜD attestation)

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**Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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**Density/Concentration****Measuring principle**

Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter with an ultra-compact transmitter.

Measuring highly accurately liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). Medium temperature up to +205 °C (+401 °F).

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## Density/Concentration

### Transmitter features

Space-saving transmitter – full functionality on the smallest footprint.  
Time-saving local operation without additional software and hardware – integrated web server. Integrated verification – Heartbeat Technology.  
Robust, ultra-compact transmitter housing. Highest degree of protection: IP69. Local display available.

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### Nominal diameter range

DN 8 to 50 ( $\frac{3}{8}$  to 2")

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### Wetted materials

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

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### Measured variables

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

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### Max. measurement error

Mass flow (liquid):  $\pm 0.1$  %

Volume flow (liquid):  $\pm 0.1$  %

Mass flow (gas, Tantalum only):  $\pm 0.5$  %

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

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### Measuring range

0 to 70 000 kg/h (0 to 2570 lb/min)

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### Max. process pressure

PN 40, Class 300, 20K

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### Medium temperature range

Tantalum:  $-50$  to  $+150$  °C ( $-58$  to  $+302$  °F)

Zirconium:  $-50$  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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**Density/Concentration****Sensor housing material**1.4301 (304), corrosion resistant

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**Transmitter housing material**

Compact: AlSi10Mg, coated

Compact/ultra-compact: 1.4301 (304)

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**Degree of protection**

Standard: IP66/67, type 4X enclosure

Option: IP69

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**Display/Operation**

4-line backlit display available (no local operation)

Configuration via web browser and operating tools possible

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**Outputs**

4-20 mA HART (active)

Pulse/frequency/switch output (passive)

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**Inputs**None

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**Digital communication**HART, Modbus RS485, EtherNet/IP, PROFIBUS DP, PROFINET

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**Power supply**DC 20 to 30 V

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**Hazardous area approvals**ATEX, IECEx, cCSAus, INMETRO, NEPSI, EAC

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**Product safety**CE, C-Tick, EAC marking

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Density/Concentration

**Metrological approvals and certificates**

Calibration performed on accredited calibration facilities (acc. to ISO/IEC 17025)

Heartbeat Technology complies with the requirements for traceable verification according to ISO 9001:2008 – Section 7.6a (TÜV SÜD attestation)

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**Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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# Proline Promass H 300 Coriolis flowmeter

Chemically resistant single-tube flowmeter  
with a compact, easily accessible transmitter



## Benefits:

- Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts
- 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):  $\pm 0.10\%$  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 70 000 kg/h (0 to 2570 lb/min)
- **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  $+401\text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 40, Class 300, 20K
- **Wetted materials** Measuring tube: Tantalum 2.5W; 702 (UNS R60702) Connection: Tantalum; 702 (UNS R60702)

**Field of application:** The highly accurate Promass H is destined for applications requiring maximum corrosion resistance and guarantees optimal safety for chemically aggressive fluids. With its compact transmitter Promass H 300 offers high flexibility in terms of operation and system integration: access from one side, remote display and improved connectivity options. Heartbeat Technology enables process safety at all times.

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## Features and specifications

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### Liquids

**Measuring principle**

Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter with a compact, easily accessible transmitter.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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 8 to 50 ( $\frac{3}{8}$  to 2")

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**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

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**Measured variables**

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

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## Liquids

**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):  $\pm 0.0005\text{ g/cm}^3$ 

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**Measuring range**0 to 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**PN 40, Class 300, 20K

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**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  $+401\text{ }^\circ\text{F}$ )

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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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## 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

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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, UK Ex, 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

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

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**Material certificates**3.1 material

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**Gas****Measuring principle**Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter with a compact, easily accessible transmitter.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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 8 to 50 ( $\frac{3}{8}$  to 2")

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**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

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## Gas

**Measured variables**

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

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

**Measuring range**

0 to 70 000 kg/h (0 to 2570 lb/min)

**Max. process pressure**

PN 40, Class 300, 20K

**Medium temperature range**

Tantalum:  $-50$  to  $+150$  °C ( $-58$  to  $+302$  °F)

Zirconium:  $-50$  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

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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, UK Ex, 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**

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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**Gas****Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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**Density****Measuring principle**

Coriolis

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**Product Headline**

Chemically resistant single-tube flowmeter with a compact, easily accessible transmitter.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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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**Density/Concentration****Measuring principle**

Coriolis

## Density/Concentration

### Product headline

Chemically resistant single-tube flowmeter with a compact, easily accessible transmitter.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

### Sensor features

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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 8 to 50 ( $\frac{3}{8}$  to 2")

### Wetted materials

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

### Measured variables

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

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

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

0 to 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**

PN 40, Class 300, 20K

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**Medium temperature range**

Tantalum: -50 to +150 °C (-58 to +302 °F)

Zirconium: -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

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****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, UK Ex, 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**

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**PED, CRN

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**Material certificates**3.1 material

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# Proline Promass H 500 Coriolis flowmeter

Chemically resistant single-tube flowmeter, as remote version with up to 4 I/Os



## Benefits:

- Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts
- 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):  $\pm 0.10\%$  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 70 000 kg/h (0 to 2570 lb/min)
- **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  $+401\text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 40, Class 300, 20K
- **Wetted materials** Measuring tube: Tantalum 2.5W; 702 (UNS R60702) Connection: Tantalum; 702 (UNS R60702)

**Field of application:** The highly accurate Promass H is destined for applications requiring maximum corrosion resistance and guarantees optimal safety for chemically aggressive fluids. With its innovative remote transmitter Promass H 500 maximizes installation flexibility and operational safety in demanding environments. Heartbeat Technology enables process safety at all times.

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## Features and specifications

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### Liquids

**Measuring principle**

Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter, as remote version with up to 4 I/Os.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

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**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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.

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 8 to 50 ( $\frac{3}{8}$  to 2")

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**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

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**Measured variables**

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

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## Liquids

**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 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**

PN 40, Class 300, 20K

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**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  $+401\text{ }^\circ\text{F}$ )

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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

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);

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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### 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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**Liquids****Pressure approvals and certificates**PED, CRN

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**Material certificates**3.1 material

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**Gas****Measuring principle**Coriolis

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**Product headline**

Chemically resistant single-tube flowmeter, as remote version with up to 4 I/Os.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

---

**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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.

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 8 to 50 ( $\frac{3}{8}$  to 2")

---

**Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

---

## Gas

**Measured variables**

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

**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 70 000 kg/h (0 to 2570 lb/min)

**Max. process pressure**

PN 40, Class 300, 20K

**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**

1.4301 (304), corrosion resistant

Sensor connection housing (standard): AlSi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);

1.4409 (CF3M) similar to 316L

**Transmitter housing material**

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

**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

**Gas****Display/Operation**

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

Configuration via local display and operating tools possible

---

**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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**Gas****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**

PED, CRN

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**Material certificates**

3.1 material

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**Density****Measuring principle**

Coriolis

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**Product Headline**

Chemically resistant single-tube flowmeter, as remote version with up to 4 I/Os.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

---

**Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). Medium temperature up to +205 °C (+401 °F).

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## Density

### **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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## Density/Concentration

### **Measuring principle**

Coriolis

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### **Product headline**

Chemically resistant single-tube flowmeter, as remote version with up to 4 I/Os.

Highly accurate measurement of liquids and gases in applications requiring highest corrosion resistance.

---

### **Sensor features**

Maximum safety for chemically aggressive fluids – corrosion-resistant wetted parts. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs.

Measuring tube made of Tantalum, Zirconium. Nominal diameter: DN 8 to 50 ( $\frac{3}{8}$  to 2"). 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.

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 8 to 50 ( $\frac{3}{8}$  to 2")

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**Density/Concentration****Wetted materials**

Measuring tube: Tantalum 2.5W; 702 (UNS R60702)

Connection: Tantalum; 702 (UNS R60702)

---

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

---

**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 70 000 kg/h (0 to 2570 lb/min)

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**Max. process pressure**PN 40, Class 300, 20K

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

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**Sensor housing material**

1.4301 (304), corrosion resistant

Sensor connection housing (standard): AISi10Mg, coated

Sensor connection housing (option): 1.4301 (304); 1.4404 (316L);

1.4409 (CF3M) similar to 316L

---

**Transmitter housing material**AISi10Mg, coated; 1.4409 (CF3M) similar to 316L; Polycarbonat

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## Density/Concentration

### 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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### 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)

---

### 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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Density/Concentration

**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**

PED, CRN

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**Material certificates**

3.1 material

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## По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231  
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Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

эл.почта: [ehr@nt-rt.ru](mailto:ehr@nt-rt.ru) || сайт: <https://endcounters.nt-rt.ru/>