

Proline Promass H 500 Coriolis flowmeter

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



More information and current pricing:

www.be.endress.com/8H5B

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 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, 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 $+150$ °C (-58 to $+302$ °F) Zirconium: -50 to $+205$ °C (-58 to $+401$ °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 ensures process safety at all times.

Features and specifications

Liquids

Measuring principle

Coriolis

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.

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

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)

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

Display/Operation

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

Configuration via local display and operating tools possible

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

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

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**PED, CRN

Material certificates3.1 material

Gas**Measuring principle**Coriolis

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

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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.

Nominal diameter rangeDN 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): ± 0.10 %

Volume flow (liquid): ± 0.10 %

Mass flow (gas, Tantalum only): ± 0.50 %

Density (liquid): ± 0.0005 g/cm³

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)

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Ambient temperature range

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

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Sensor housing material

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Sensor connection housing (standard): AlSi10Mg, coated

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

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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

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

Product safety

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Gas**Metrological approvals and certificates**

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Material certificates

3.1 material

Density**Measuring principle**

Coriolis

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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).

Density

Transmitter features

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Remote version with up to 4 I/Os. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

Density/Concentration

Measuring principle

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