

Кориолисовые массовые расходомеры Promass P 500

Технические характеристики

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Proline Promass P 500 Coriolis flowmeter

Specialist for life sciences, as remote version
with up to 4 I/Os



Benefits:

- Highest process quality – fully compliant to industry requirements
- 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): $\pm 0.10\%$ 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** Standard: -50 to $+150\text{ }^\circ\text{C}$ (-58 to $+302\text{ }^\circ\text{F}$) Option: -50 to $+205\text{ }^\circ\text{C}$ (-58 to $+401\text{ }^\circ\text{F}$)
- **Max. process pressure** PN 40, Class 150, 20K
- **Wetted materials** Measuring tube: 1.4435 (316L) Connection: 1.4435 (316L); 1.4404 (316/316L)

Field of application: Promass P is the specialist for sterile processes in the life sciences industry. It is dedicated to biotech applications requiring highest compliance with guidelines and regulations. With its innovative remote transmitter Promass P 500 maximizes installation flexibility and operational safety in demanding environments. Heartbeat Technology enables compliance and process safety at all times.

Features and specifications

Liquids

Measuring principle

Coriolis

Product headline

Specialist for life sciences, as remote version with up to 4 I/Os. Dedicated to applications under sterile conditions in the life sciences industry.

Sensor features

Highest process quality – fully compliant to industry requirements. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space-saving installation – no in-/outlet run needs. ASME BPE, 3-A and EHEDG conform & low delta ferrite. Electropolished measuring tube in 1.4435 (316L).

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.

Fast recovery from CIP/SIP. Remote version with up to 4 I/Os; hygienic sensor connection housing with IP69. Backlit display with touch control and WLAN access.

Nominal diameter range

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

Wetted materials

Measuring tube: 1.4435 (316L)

Connection: 1.4435 (316L); 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): $\pm 0.10\%$

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

Density (liquid): $\pm 0.0005\text{ g/cm}$

Measuring range

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

Max. process pressure

PN 40, Class 150, 20K

Medium temperature range

Standard: -50 to $+150\text{ }^{\circ}\text{C}$ (-58 to $+302\text{ }^{\circ}\text{F}$)

Option: -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)

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, 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, EAC, 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**

PED, CRN

Material certificates

3.1 material

Hygienic approvals and certificates

3-A, EHEDG, ASME BPE, ISPE, cGMP

Gas**Measuring principle**

Coriolis

Product headline

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Hygienic approvals and certificates

cGMP

Density**Measuring principle**

Coriolis

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Density

Transmitter features

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Density/Concentration

Measuring principle

Coriolis

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Density/Concentration

Wetted materials

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Connection: 1.4435 (316L); 1.4404 (316/316L)

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

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

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PN 40, Class 150, 20K

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

Option: -50 to $+205$ °C (-58 to $+401$ °F)

Ambient temperature range

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

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4 outputs:
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4-20 mA input

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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

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CE, C-tick, EAC marking

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PED, CRN

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3.1 material

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