

## Proline Promass S 500 Coriolis flowmeter

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os



More information and current pricing:

[www.be.endress.com/8S5B](http://www.be.endress.com/8S5B)

### Benefits:

- Increased process safety – easily cleanable and fully self-drainable tube design
- 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):  $\pm 0.50\%$  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**  $-50$  to  $+150 \text{ }^\circ\text{C}$  ( $-58$  to  $+302 \text{ }^\circ\text{F}$ )
- **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 S is at the forefront in hygienic design and dedicated to applications in the food and beverage industry requiring optimal cleanability. The self - drainable single-tube system ensures careful treatment of fluids. With its innovative remote transmitter Promass S 500 maximizes installation flexibility and operational safety in

demanding environments. Heartbeat Technology ensures process safety at all times.

## Features and specifications

### Gas

#### Measuring principle

Coriolis

#### Product headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

#### Sensor features

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

#### 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; hygienic sensor connection housing with IP69. Backlit display with touch control and WLAN access. Standard cable between sensor and transmitter.

#### Hygienic approvals and certificates

cGMP

### Density

#### Measuring principle

Coriolis

---

## Density

### Product Headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

---

## Density/Concentration

### Measuring principle

Coriolis

---

### Product headline

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

---

### Sensor features

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

---

### 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; hygienic sensor connection housing with IP69. 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")

---

**Density/Concentration****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

**Max. measurement error**

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

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

Mass flow (gas):  $\pm 0.50$  %

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 150, 20K

**Medium temperature range**

-50 to +150 °C (-58 to +302 °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

Sensor connection housing (standard): AlSi10Mg, coated

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

**Transmitter housing material**

AlSi10Mg, coated; 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

---

## Density/Concentration

---

### 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

CE, C-tick, EAC marking

---

### Functional safety

Functional safety according to IEC 61508, applicable in safety-relevant applications in accordance with IEC 61511

---

---

## Density/Concentration

### **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)

---

### **Pressure approvals and certificates**

PED, CRN

---

### **Material certificates**

3.1 material

---

### **Hygienic approvals and certificates**

3-A, EHEDG, cGMP

---

## Liquids

### **Measuring principle**

Coriolis

---

### **Product headline**

Easy-to-clean device with self-drainable single-tube system, as remote version with up to 4 I/Os.

Dedicated to applications requiring optimal cleanability under hygienic conditions.

---

### **Sensor features**

Increased process safety – easily cleanable and fully self-drainable tube design. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in-/outlet run needs.

Large range of hygienic process connections. 3-A and EHEDG conform. Fast recovery from CIP/SIP.

---

## Liquids

### 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; hygienic sensor connection housing with IP69. 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: 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

---

### Max. measurement error

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

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

Mass flow (gas):  $\pm 0.50$  %

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 150, 20K

---

### Medium temperature range

-50 to +150 °C (-58 to +302 °F)

---

### Ambient temperature range

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

Option: -50 to +60 °C (-58 to +140 °F)

---

## Liquids

---

### 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; 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

---

### 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)

---



## Liquids

### **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)

---

### **Pressure approvals and certificates**

PED, CRN

---

### **Material certificates**

3.1 material

---

### **Hygienic approvals and certificates**

3-A, EHEDG, cGMP

---

More information [www.be.endress.com/8S5B](http://www.be.endress.com/8S5B)