

## Promass 83S



More information and current pricing:

[www.casc.endress.com/83S](http://www.casc.endress.com/83S)

### Benefits:

- Increased process safety – easy cleanable and fully self-drainable tube design
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Quality – software for filling & dosing, density & concentration, advanced diagnostics
- Flexible data transfer options – numerous communication types
- Automatic recovery of data for servicing

### Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.1$  % Volume flow (liquid):  $\pm 0.1$  % Mass flow (gas):  $\pm 0.5$  % Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>
- **Measuring range** 0 to 70 000 kg/h (0 to 2570 lb/min)
- **Medium temperature range**  $-50$  to  $+150$  °C ( $-58$  to  $+302$  °F)
- **Max. process pressure** PN 63, Class 300, 40K
- **Wetted materials** Measuring tube: 1.4539 (904L) Connection: 1.4435 (316L); 1.4404 (316/316L)

**Field of application:** Promass S is at the forefront in hygienic design – Endress+Hauser's industry-optimized measurement solution meets all the hygienic requirements for installation in the Food and Beverage industry. Combined with the Promass 83 transmitter with touch control, four line display and extended functionality like software options for filling and dosing, concentration measurement or advanced diagnostics, Promass 83S offers superior performance in applications requiring optimal cleanability.

### Features and specifications

## Liquids

### Measuring principle

Coriolis

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### Product headline

The easy-to-clean flowmeter with self-drainable single-tube system and extended transmitter functionality. Dedicated for applications requiring optimal cleanability under hygienic conditions.

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### Sensor features

Reduced installation costs – fully self-drainable tube design enables compact horizontal mounting. 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.

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### Transmitter features

Quality – software for filling & dosing, density & concentration, advanced diagnostics. Flexible data transfer options – numerous communication types. Automatic recovery of data for servicing. 4-line backlit display with touch control. Device in compact or remote version.

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### Nominal diameter range

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

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### Wetted materials

Measuring tube: 1.4539 (904L)

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

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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):  $\pm 0.1$  %

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## Liquids

**Measuring range**

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

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**Max. process pressure**

PN 63, Class 300, 40K

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**Medium temperature range**

-50 to +150 °C (-58 to +302 °F)

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**Ambient temperature range**

Standard: -20 to +60 °C (-4 to +140 °F)

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

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**Sensor housing material**

1.4301 (304), corrosion resistant

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**Transmitter housing material**

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

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**Degree of protection**

IP67, type 4X enclosure. Remote transmitter: IP67, 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 modular outputs:

0-20 mA (active)/4-20 mA (active/passive)

Pulse/frequency/switch output (passive)

Relay

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**Inputs**

2 modular inputs:

Status

0-20 mA (active)/4-20 mA (active/passive)

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## Liquids

### Digital communication

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus RS485, EtherNet/IP

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### Power supply

DC 16 to 62 V

AC 85 to 260 V (45 to 65 Hz)

AC 20 to 55 V (45 to 65 Hz)

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### Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

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### Other approvals and certificates

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

PED, CRN

3-A, FDA

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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), NAMUR

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### Pressure approvals and certificates

PED, CRN

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### Material certificates

3.1 material

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### Hygienic approvals and certificates

3-A, FDA

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## Gas

**Measuring principle**

Coriolis

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**Wetted materials**

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

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**Measured variables**

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## Gas

**Measuring range**

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

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**Max. process pressure**

PN 63, Class 300, 40K

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**Medium temperature range**

-50 to +150 °C (-58 to +302 °F)

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## Gas

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**Product safety**

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**Functional safety**

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**Metrological approvals and certificates**

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**Pressure approvals and certificates**

PED, CRN

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**Material certificates**

3.1 material

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**Hygienic approvals and certificates**

3-A, FDA

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**Density****Measuring principle**Coriolis

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**Characteristic / Application**Coriolis mass flow and density measurement for the food and beverage industry.

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**Ambient temperature**-20...+65°C  
(-4...+140°F)

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**Process temperature**-50...+150°C  
(-58...+302°F)

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**Process pressure**PN 16...40  
CI 150...300  
JIS 20...40K

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**Wetted parts**904L/1.4539

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**Output**4...20mA  
Pulse/Frequency (10KHz, active/passive)  
Relays/Status

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**Certificates / Approvals**ATEX  
FM  
CSA  
IECEX  
TIIS  
NEPSI

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