

## Promass 83P



More information and current pricing:

[www.au.endress.com/83P](http://www.au.endress.com/83P)

### 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
- 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):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 70 000 kg/h (0 to 2570 lb/min)
- **Medium temperature range**  $-50$  to  $+200 \text{ }^\circ\text{C}$  ( $-58$  to  $+392 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 63, Class 300, 40K
- **Wetted materials** Measuring tube: 1.4435 (316L) Connection: 1.4435 (316L); 1.4404 (316/316L)

**Field of application:** Promass P offers the enhanced performance of a bent tube meter and the drainability of a straight tube meter without any compromise. Combined with the Promass 83 transmitter with touch control, and extended functionality like software options for filling and dosing, concentration measurement or advanced diagnostics, Promass 83P offers highly accurate measurement for demanding applications in sterile environments in the life sciences industry.

### Features and specifications

Liquids

Measuring principle

Coriolis

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## Liquids

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### Product headline

The specialist for life sciences with extended transmitter functionality. Dedicated for applications under sterile conditions in the life sciences industry.

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### 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).

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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: 1.4435 (316L)

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):  $\pm 0.1$  %

Mass flow (gas):  $\pm 0.5$  %

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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## Liquids

**Max. process pressure**

PN 63, Class 300, 40K

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**Medium temperature range**

-50 to +200 °C (-58 to +392 °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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**Digital communication**

HART, PROFIBUS PA/DP, FOUNDATION Fieldbus, Modbus

RS485, EtherNet/IP

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## Liquids

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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, ASME BPE, ISPE

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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, ASME BPE, ISPE

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## Gas

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### Measuring principle

Coriolis

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## Gas

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**Sensor features**

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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.

**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):  $\pm 0.1$  %

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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)

## Gas

**Max. process pressure**

PN 63, Class 300, 40K

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**Medium temperature range**

-50 to +200 °C (-58 to +392 °F)

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**Ambient temperature range**

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

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**Transmitter housing material**

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## Gas

**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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ATEX, IECEx, FM, CSA, NEPSI

**Other approvals and certificates**

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PED, CRN

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**Product safety**

CE, C-tick, EAC marking

**Functional safety**

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**Metrological approvals and certificates**

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**Pressure approvals and certificates**

PED, CRN

**Material certificates**

3.1 material

**Hygienic approvals and certificates**

3-A, FDA, ASME BPE, ISPE

## Density

**Measuring principle**

Coriolis

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**Density****Characteristic / Application**

Coriolis mass flowmeter complying with ASME BPE, ISPE, FDA, 3-A

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**Ambient temperature**

-20...+65°C  
(-4...+140°F)

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**Process temperature**

-50...+200°C  
(-58...+392°F)

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**Process pressure**

PN 16...40  
CI 150...300  
JIS 20...40K

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**Wetted parts**

316L/1.4435

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

Coriolis

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## Density/Concentration

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