

## Promass 80F



More information and current pricing:

[www.be.endress.com/80F](http://www.be.endress.com/80F)

### Benefits:

- Highest process safety – immune to fluctuating and harsh environments
- Fewer process measuring points – multivariable measurement (flow, density, temperature)
- Space-saving installation – no in/outlet run needs
- Cost-effective – dedicated design for standard applications
- Safe operation – display provides easy readable process information
- Fully industry compliant – IEC/EN/NAMUR

### Specs at a glance

- **Max. measurement error** Mass flow (liquid):  $\pm 0.15\%$  (standard),  $0.1\%$  (option) Volume flow (liquid):  $\pm 0.15\%$  Mass flow (gas):  $\pm 0.35\%$  Density (liquid):  $\pm 0.0005 \text{ g/cm}^3$
- **Measuring range** 0 to 2 200 000 kg/h (0 to 80 840 lb/min)
- **Medium temperature range** Standard:  $-50$  to  $+200 \text{ }^\circ\text{C}$  ( $-58$  to  $+392 \text{ }^\circ\text{F}$ ) High temperature:  $-50$  to  $+350 \text{ }^\circ\text{C}$  ( $-58$  to  $+662 \text{ }^\circ\text{F}$ )
- **Max. process pressure** PN 100, Class 600, 63K
- **Wetted materials** Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022) Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

**Field of application:** Promass F has a long standing reputation as a highly accurate and robust device. It is suited for a broadest range of applications. Combined with the proven Promass 80 transmitter with push buttons, Promass 80F offers highest measurement performance for liquids and gases under varying, demanding process conditions.

### Features and specifications

Gas

Measuring principle

Coriolis

## Gas

**Product headline**

The robust flowmeter for demanding applications with a compact or remote transmitter. Highest measurement performance for liquids and gases under varying, demanding process conditions.

**Sensor features**

Highest process safety – immune to fluctuating and harsh environments. Fewer process measuring points – multivariable measurement (flow, density, temperature). Space - saving installation – no in/outlet run needs. Mass flow: measurement error  $\pm 0,05$  % (PremiumCal). pressure-rated sensor housing up to 40 bar (580 psi).

**Transmitter features**

Cost - effective – dedicated design for standard applications. Safe operation – display provides easy readable process information. Fully industry compliant – IEC/EN/NAMUR. 2 - line backlit display with push buttons. Device in compact or remote version.

**Nominal diameter range**

DN 8 to 250 ( $\frac{3}{8}$  to 10")

High temperature: DN 25 (1"), DN 50 (2"), DN 80 (3")

**Wetted materials**

Measuring tube: 1.4539 (904L); 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

**Measured variables**

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

**Max. measurement error**

Mass flow (liquid):  $\pm 0.15$  % (standard), 0.1 % (option)

Volume flow (liquid):  $\pm 0.15$  %

Mass flow (gas):  $\pm 0.35$  %

Density (liquid):  $\pm 0.0005$  g/cm<sup>3</sup>

## Gas

**Measuring range**

0 to 2 200 000 kg/h (0 to 80 840 lb/min)

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**Max. process pressure**

PN 100, Class 600, 63K

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**Medium temperature range**

Standard: -50 to +200 °C (-58 to +392 °F)

High temperature: -50 to +350 °C (-58 to +662 °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**

1.4301/1.4307 (304L), 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**

2 - line backlit display with push buttons

Configuration via local display and operating tools possible

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**Outputs**

3 outputs:

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

Pulse/frequency/switch output (passive)

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**Inputs**

Status input

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## Gas

**Digital communication**

HART  
PROFIBUS PA

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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, marine  
PED, CRN, AD 2000  
3-A,, FDA  
NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME,NORSOK

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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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**Marine approvals and certificates**

Marine approval

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**Pressure approvals and certificates**

PED, CRN, AD 2000

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**Material certificates**

3.1 material  
NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME,NORSOK

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Gas

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**Hygienic approvals and certificates**

3-A, EHEDG, FDA

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Steam

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**Measuring principle**

Coriolis

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**Measured variables**

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

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## Steam

**Max. measurement error**

Mass flow (liquid):  $\pm 0.15\%$  (standard),  $0.1\%$  (option)

Volume flow (liquid):  $\pm 0.15\%$

Mass flow (gas):  $\pm 0.35\%$

Density (liquid):  $\pm 0.0005\text{ g/cm}^3$

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**Ambient temperature range**

Standard:  $-20$  to  $+60\text{ }^\circ\text{C}$  ( $-4$  to  $+140\text{ }^\circ\text{F}$ )

Option:  $-40$  to  $+60\text{ }^\circ\text{C}$  ( $-40$  to  $+140\text{ }^\circ\text{F}$ )

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**Sensor housing material**

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Pulse/frequency/switch output (passive)

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## Steam

**Inputs**

Status input

**Digital communication**

HART

PROFIBUS PA

**Power supply**

DC 16 to 62 V

AC 85 to 260 V (45 to 65 Hz)

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**Hazardous area approvals**

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3-A, FDA

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**Product safety**

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**Marine approvals and certificates**

Marine approval

**Pressure approvals and certificates**

PED, CRN, AD 2000

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**Steam**
**Material certificates**

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

Coriolis

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Connection: 1.4404 (316/316L); Alloy C22, 2.4602 (UNS N06022)

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## Density/Concentration

### Measured variables

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

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Pulse/frequency/switch output (passive)

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**Inputs**

Status input

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**Digital communication**

HART

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**Marine approvals and certificates**

Marine approval

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**Pressure approvals and certificates**

PED, CRN, AD 2000

## Density/Concentration

### Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

### Hygienic approvals and certificates

3-A, EHEDG, FDA

## Liquids

### Measuring principle

Coriolis

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PN 100, Class 600, 63K

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**Display/Operation**

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Configuration via local display and operating tools possible

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## Liquids

### Outputs

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

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### Power supply

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### Hazardous area approvals

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PED, CRN, AD 2000

3-A, FDA

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

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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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## Liquids

### Marine approvals and certificates

Marine approval

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### Pressure approvals and certificates

PED, CRN, AD 2000

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### Material certificates

3.1 material

NACE MR0175/MR0103, PMI; welding test acc. to EN, ASME, NORSOK

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### Hygienic approvals and certificates

3-A, EHEDG, FDA

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## Density

### Measuring principle

Coriolis

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### Characteristic / Application

The universal and multivariable flowmeter for liquids and gases

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### Ambient temperature

-20...+65°C

(-4...+140°F)

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### Process temperature

-50...+350°C

(-58...+662°F)

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### Process pressure absolute

PN 16...100

CI 150...600

JIS 10...63K

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### Wetted parts

904L/1.4539

Alloy C-22

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Density

**Output**

4...20mA

Pulse/Frequency

Status

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**Certificates / Approvals**

ATEX

FM

CSA

TIIS

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