

Promass 80F



More information and current pricing:

www.ie.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

Liquids

Measuring principle

Coriolis

Liquids

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): ± 0.15 % (standard), 0.1 % (option)

Volume flow (liquid): ± 0.15 %

Mass flow (gas): ± 0.35 %

Density (liquid): ± 0.0005 g/cm³

Liquids

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Max. process pressure

PN 100, Class 600, 63K

Medium temperature range

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

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

Ambient temperature range

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

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

Sensor housing material

1.4301/1.4307 (304L), corrosion resistant

Transmitter housing material

Powder-coated die-cast aluminium

1.4301 (304), sheet

CF3M (316L), cast

Degree of protection

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

Display/Operation

2-line backlit display with push buttons

Configuration via local display and operating tools possible

Outputs

3 outputs:

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

Pulse/frequency/switch output (passive)

Inputs

Status input

Liquids

Digital communication

HART
PROFIBUS PA

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)

Hazardous area approvals

ATEX, IECEX, FM, CSA, NEPSI

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

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), NAMUR

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

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

Liquids

Hygienic approvals and certificates

3-A, EHEDG, FDA

Gas

Measuring principle

Coriolis

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

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Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Gas**Material certificates**

3.1 material

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

Hygienic approvals and certificates3-A, EHEDG, FDA

Steam**Measuring principle**Coriolis

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Wetted materials

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

Steam

Measured variables

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

Max. measurement error

Mass flow (liquid): ± 0.15 % (standard), 0.1 % (option)

Volume flow (liquid): ± 0.15 %

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Steam**Outputs**

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Power supply

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Hazardous area approvals

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Other approvals and certificates

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Product safety

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Steam

Marine approvals and certificates

Marine approval

Pressure approvals and certificates

PED, CRN, AD 2000

Material certificates

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Hygienic approvals and certificates

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Density

Measuring principle

Coriolis

Characteristic / Application

The universal and multivariable flowmeter for liquids and gases

Ambient temperature

-20...+65°C

(-4...+140°F)

Process temperature

-50...+350°C

(-58...+662°F)

Process pressure

PN 16...100

CI 150...600

JIS 10...63K

Wetted parts

904L/1.4539

Alloy C-22

Density

Output

4...20mA
Pulse/Frequency
Status

Certificates / Approvals

ATEX
FM
CSA
TIIS

Density/Concentration

Measuring principle

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Density/Concentration

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